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THE DONGOLA EXPEDITION OF 1896.

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General Sir FREDERICK STEPHENSON, G.C.B., in the Chair.

LECTURE.

THE Dongola province, once the most fertile region of the Upper Nile, may be said to extend from the rapids of the Batn-el-Hagar desert to the Fourth Cataract. It thus stretches along some 400 miles of winding river, the navigation of which at high Nile is interrupted by no serious barrier. The northern districts of the province between the Batn-el-Hagar and the Third Cataract are known as the Dar Sukkot and the Mahassa. South of Hannek begins the Dar Dongola—the Dongola district in the narrower acceptation of the term. Still further south, as we approach the Fourth Cataract, we enter the Shaiggiyeh country.

The founder of Mahdism, Mohammed Ahmed, and its most brilliant soldier, Abderrahman Wad-en-Nejumi, were Danagla tribesmen, that is, men of the Dongola province. The district passed from Egyptian rule into the power of the Khalifa when, after our failure to relieve Khartoum, the frontier of Egypt was withdrawn to Wadi Halfa.

The British rearguard, under General Brackenbury, left the town of Dongola on July 5th, 1885. The Dervish vanguard was then at Merowi. On August 17th—six weeks after our retirement—3,000 fighting men, under the Emir Abd-el-Mejid el Khalik, marched into Dongola.

Thence the enemy gradually overran the whole of the province. At first an attempt was made to hold the country as far south as Kosheh against them, mainly with a view to keeping the railway working to Akasha. General Grenfell's victory at Ginnis (December 30th, 1885) checked for awhile the Mahdist advance. But the Egyptian posts along the river were withdrawn at the end of the cool season, and by the middle of April, 1886, the valley of Khor Moussa, five miles south of Wadi Halfa, was the frontier of Egypt.

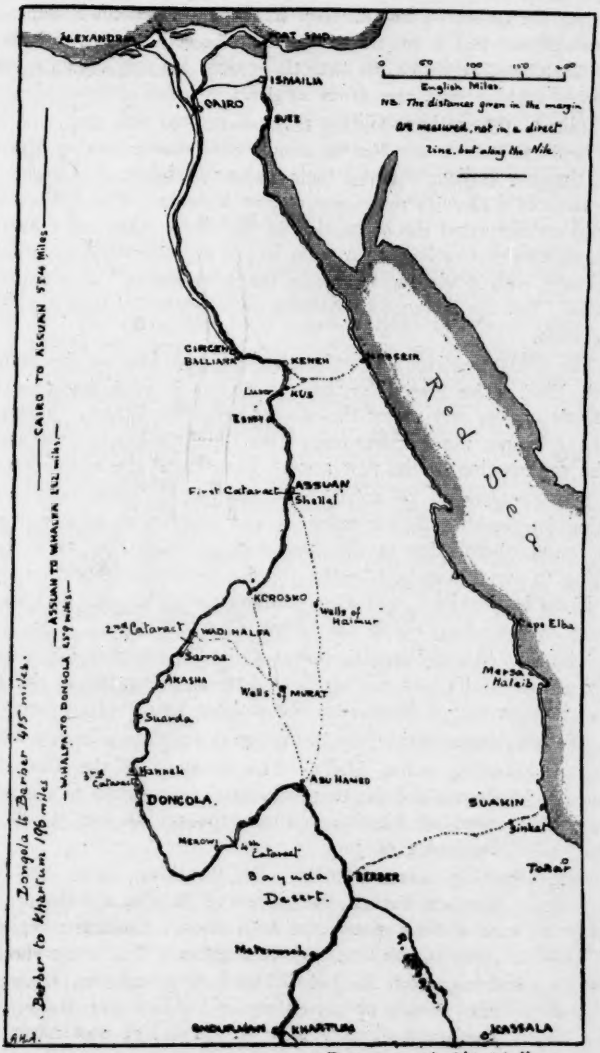
There were thus almost exactly ten years between the evacuation of the Dongola province and its reconquest in 1896.

Wadi Halfa had been chosen as the place for the Egyptian frontier garrison because, situated as it is at the head of the long reach of the Nile between the First and Second Cataracts, it could be kept all the year round in communication with the north by steamer; the sandy plain that surrounds it on the land side made it easy to defend; and the hundred miles of wild desert to the southward made the advance of a large hostile force on that side extremely difficult.

It was by the other bank of the Nile that the Dervishes attempted the invasion of Egypt in 1889, thus trying to get round to the north of Halfa without coming within range of its forts. The victory of Toski (August 3rd, 1889) put an end to the enterprise. That fight marked the furthest north of the Dervish movement on the Nile. During the campaign of Toski the enemy's camp near Sarras was broken up and an Egyptian garrison at Sarras Fort became the furthest outpost of Halfa. No permanent advance beyond that point was made by the Egyptian Army till the campaign of last year.

Suarda, 98 miles south of Sarras, was during this interval of seven years, the advanced post of the Mahdist power on the Nile. The Emir who commanded at Dongola always kept a picked force at Suarda, whence parties of raiders would cross the Batn-el-Hagar desert, usually watering their horses and camels and filling their water-skins at Akasha, where they sometimes had a camp for months together. Ambigol Wells, in the desert on the old railway line, was another watering place. Long intervals divided these raids, but there was never peace or safety on the frontier. The villagers living within the Egyptian outposts were counted by the Dervish leaders as among "the enemies of God," with whom it was meritorious to wage a war of plunder and extermination. Even in the Dar Sukkot, between the southern edge of the Batn-el-Hagar and the garrison at Suarda, miles of river bank were made desolate by the raiders, who lived at free quarters on the inhabitants. The water-wheels were broken up and burned in the Dervish camp-fires, and the people, unable to till their fields, abandoned their homes. Far to the north, between Halfa and Korosko, the safety of the riverside villages was chiefly secured by the constant activity of the four stern-wheel gun-boats that patrolled the Nile.

Such a state of things could not last. Sooner or later an attempt was sure to be made to destroy the nest of brigands at Suarda and recover the Dongola province. But no one expected that this attempt



Sketch Map - Distances & Principal Points in the Nile Valley.

would be made at the moment when it was actually undertaken. The relatively cool winter months are the time for campaigning in the Soudan. Except at or near high Nile it is impossible to pass even a fairly large boat over the cataracts, and all river traffic between them is difficult and tediously slow. But it was near the end of the cool season, and when the Nile was almost at its lowest that the orders for the advance into the Dongola province were sent from England.

Political rather than military reasons dictated this step, and we do not discuss politics here. Let me simply note that it was on March 1st, 1896, that the Italians suffered their disastrous defeat at Adowa. Then came news of a Dervish movement against Kassala. The Italians appear to have contemplated the evacuation of the place, when our Government arranged with that of Egypt for what was at first described as an advance to Akasha with a view to diverting the attention of the Khalifa from Kassala. But the advance to Akasha soon developed into the Dongola Expedition.

The Sirdar received his orders by telegraph late on the evening of March 13th. The Expedition had to be, as it were, improvised at a moment's notice, and under the most adverse conditions. There could not have been a more trying test of the Egyptian headquarter staff and of the organisation of the new army. Both stood the test admirably.

The problem to be solved was this: — To concentrate a strong fighting force with sufficient transport and supplies at an advanced base near the southern edge of the Batn-el-Hagar desert, so as to be in a position to attack and destroy the Dervish force in the northern part of the Dongola province, and then march upon Dongola and clear the country of the enemy up to the Fourth Cataract.

The first base of operations was Cairo, nearly 800 miles from the front. Wadi Halfa was the advanced base at the outset of the Expedition. Akasha and Kosheh were the starting points of its later phases.

We may thus divide the campaign into three distinct stages:—

1. Starting point, Halfa.—The crossing of the Batn-el-Hagar desert, and the occupation and preparation of the advanced base at Akasha. From the middle of March to the beginning of June.
2. Starting point, Akasha.—The breaking up of the Dervish camp at Ferkeh, the capture of Suarda, and the preparation of the advanced base at Kosheh. From the beginning of June to the last week of August.
3. Starting point, Kosheh.—The final advance on Dongola, and the pursuit of the enemy to Debbeh and Merowi. From the last week of August to the end of September.

First Stage of the Campaign.

In the middle of March, 1896, the Egyptian Army was, in round numbers, 16,000 strong, its organisation and the strength of the various arms being as follows:—

—	Officers	N.C.O's and men	Total.
Cavalry (8 squadrons, Egyptian)	51	1,202	1,253
Artillery (1 horse and 2 mountain batteries and 1 garrison battalion)	37	914	951
Camel Corps (2 Egyptian and 4 Soudanese companies)	18	600	618
Infantry (8 Egyptian battalions, Nos. 1—8)	208	6,362	6,570
Infantry (5 Soudanese battalions, Nos. 9—13)	135	4,010	4,145
Staff departments, &c.	224	1,377	1,601
Total	673	14,465	15,138
Irregular troops	21	921	942
Grand Total	...	...	16,080

Of this force rather more than one-half was on the Nile frontier and the Red Sea coast. Suakin was held by a garrison consisting of the 1st and 5th Egyptians, the 9th and 10th Soudanese, a squadron of cavalry, and detachments of gunners and of the camel corps. Sarras, the southern outpost of Halfa, was held by a Soudanese battalion. At Halfa itself was the headquarters of the camel corps, a mountain battery, three battalions and a small force of cavalry. Korosko was held by a detachment of infantry which had an outpost at Murat Wells, about half way along the camel track to Abu Hamed. This advanced post at Murat Wells was chiefly valuable as the starting point for watching any hostile movements along the bend of the Nile between Abu Hamed and Debbeh. It was connected with Korosko by a telegraph wire, and in case the wire should be cut by Dervish raiders there were tools, materials, and expert workmen always ready at both ends of the line to start off with a small escort and repair a break. Assouan had an infantry battalion in garrison, and the reach of the river between that place and Halfa was patrolled by four armed stern-wheelers, the "Tamai," the "Abu Klea," the "Teb," and the "Metemneh," all of which had done good service in the Toski campaign, notably in the hard riverside fight at Argin.

According to the reports of the Intelligence Department, the enemy's forces in the Dongola province at the beginning of the year were:—

—	Jehadia (black riflemen).	Cavalry.	Sword and Spearmen.	Guns.	Total.
Under the Emir Mohammed Wad Bishara at Dongola	2400	500	5000	8	7900
Under his Lieutenant the Emir Hammuda Idris at Suarda ..	250	100	1000	—	1350
Total	2650	600	6000	8	9250

At Abu Hamed there was a garrison of 1,200 men (400 Jehadia, 100 cavalry, and 700 sword and spearmen), with four guns. Opinions were divided as to whether or not these northern Dervish garrisons would be reinforced to any large extent from the Dervish main Army at Omdurman.

The Sirdar opened the campaign by directing Hunter Pasha to seize and hold Akasha with a detachment of the forces already on the frontier. But before describing this first advance let me note what was being done at Cairo and along the line of communications in the way of preparation for the subsequent operations.

The railway was working to Sarras. Beyond that point it had been destroyed by the Dervishes, who pulled up and burned the sleepers, carried off all the smaller ironwork, but left the rails lying beside or on the track. Sarras was in telegraphic communication with Halfa. The forts at Khor Moussa and Gemai protected the railway and the line of communication between Halfa and its outpost.

Colonel Archibald Hunter was in command of the Nile frontier. Colonel Parsons at Suakin, had temporarily replaced Colonel Lloyd, who was in Cairo.

On the 14th the first reserve of the Egyptian Army was called out. When an Egyptian has done his six years' service in the Army he is liable for five years' further service in the Police, and then passes for four years into the second reserve. But the number of time-expired men has of late years considerably exceeded that which is required for the recruiting of the Police, and the men who are not thus enrolled are sent direct to their villages from the Army, and form the first reserve. Last year all that were called back to the colours responded promptly to the summons—a marked and pleasing contrast to the old days when men called up for service in the Soudan had to be dragged in chains to the recruiting depôts. In one week enough men had rejoined to fill up all vacancies in the active Army, and out of the surplus two new battalions of Egyptian infantry had been formed, the 15th and the 16th. Later on, a new Soudanese battalion was formed, partly of old soldiers, partly of recruits. It was drilled part at Tourah, part at Halfa. It was numbered as the 14th, the number hitherto belonging to the depôt or training battalion of the Egyptian Army. A company was also added to the camel corps by enrolling and training some 80 men, chiefly Shaiggiyeh, of the Khedive's guard. The 15th was despatched to Suakin, and the two Soudanese regiments there, the 9th and the 10th, were ordered to proceed to the Upper Nile. They were to be conveyed by transports to Kosseir, march across the desert to Keneh, and re-embark for Assouan and the front on Nile steamers and barges.

The 16th Battalion was ordered to proceed to Assouan in order to set free its garrison for service in the field.

All the Egyptian troops in lower Egypt were to be sent up the river. The British Army of occupation, with the Coastguard troops and Police, were to form the garrison. But the British Army was also to contribute directly to the Expedition, not only by supplying a consider-

able number of special service officers; but also by sending to the front a Maxim battery, formed by uniting the machine gun sections of the Connaught Rangers and the North Staffordshire Regiment. The latter regiment left Cairo on March 22nd, reached Assouan on the 28th, and Wadi Halfa on April 2nd.

A railway construction battalion, 600 strong, was enrolled for the relaying of the line beyond Sarras. The men were mostly unskilled workmen, chosen for their physique, with a number of platelayers from the Egyptian railway department to act as foremen. British R.E. officers were to command them. Tools, spikes, etc., and a large quantity of sleepers were obtained from the works for the extension of the railway actually in progress in Upper Egypt, which was thus much delayed by the Expedition. Most of the railway iron required was already on the spot, where the Dervishes had left it.

The organisation of the camel transport was a more serious matter. It was estimated that about 4,000 camels would be required. To procure any large number on the frontier would be impossible, and in any case would only have tended to cripple the friendly tribes from whose co-operation much was expected. The experience of former campaigns had shown that some of the most serviceable animals were to be obtained in the north, one of the best kinds of camels for transport work being a cross breed between the desert and the delta camel. Officers were sent to purchase transport camels at various points along the river, and barges were covered in with light wooden sheds so as to make floating stables for their transport to Assouan, from the railhead at Balliana, from Keneh, Esneh, and other riverside landing places. Others were bought at Assouan. From that point most of them were marched to Halfa, but some were conveyed on barges, towed by the stern-wheelers.

Pack saddles for the camel transport, on a new and improved model, were manufactured at the citadel workshops at Cairo. At the outset, before these were ready, native saddles were used, but I am told that the new saddles greatly diminished the number of sore backs, and proved in the end a source of considerable economy to the transport department.

Some 2,000 camel-men were gradually enrolled, and organised in transport companies of 200 each. These men, the railway battalion, and the Arab friendlies were armed with the Remington rifle of the old Army, which is also the weapon of the Egyptian Police and Coast-guard. The weapon of the Regular Army is the Martini-Henry.

As for the line of communications. For the first stage, from Cairo to Assouan, 554 miles, Messrs. Cook's fleet of powerful steamers was available, both for the actual conveyance of men and stores, and the towing of loaded barges. The sailing boats of the Nile were also utilised in considerable numbers, especially for the conveyance of railway sleepers and similar material. Or the river voyage could be shortened by utilising the 350 miles of railway from Cairo to Balliana, at the head of the completed line, which thus became a secondary base on the Lower Nile. Arrived at Assouan, everything had to be transhipped and con-

veyed past the Second Cataract by land; men and animals marching the 7 miles, stores and material being mostly conveyed by the Shellal railway.

Shellal, at the head of the cataract, was the place of embarkation for the next stage of the river journey. A large flotilla of Nile boats, seven stern-wheel steamers, and four gun-boats, with a number of barges, were available for the navigation of the river from Shellal to Halfa, about 220 miles. The steamer or gun-boat generally towed a barge on each side, and one, two, or three native river craft astern. Both below and above the First Cataract the shallow state of the Nile made progress slow. Steamers were frequently aground, and had always to tie up for the night.

At Halfa, stores for the front, and material for the railway were landed, and conveyed by train to Sarras. By the time a consignment from Cairo reached that point it had travelled rather more than 800 miles, and had been transhipped at least four times.

The Sirdar, with Major Wingate, the chief of the Intelligence Department, and Slatin Pasha left Cairo for the front on March 22nd, and reached Halfa on the 29th. Colonel Rundle, the chief of the staff, followed them a week later, leaving Colonel Lloyd in charge of the base. Meanwhile, considerable progress had been made on the frontier.

On Sunday, March 15th, Colonel Hunter had issued orders for the occupation of Akasha by a flying column, made up of—

The 13th Soudanese Infantry.
One squadron cavalry (Broadwood's).
One company of the camel corps.
The 2nd Mountain Battery.

The mounted troops marched out to Gemai from Halfa (17 miles) on the afternoon of the 16th. Next day they marched by Sarras to Semneh (23 miles), where they were joined by Major Collinson and the Soudanese Infantry, who were that day conveyed by train to Sarras and marched on the 7 miles to Semneh. The column was thus complete. On the 18th it began its march along the river bank, and over the wild boulder-strewn passes that traverse the volcanic rocks of the Batn-el-Hagar. In the following weeks this route was improved into a fairly practicable convoy track. Most of it was then in such condition that men, horses, and camels had to move, sometimes to climb, slowly in single file. The camel corps and the cavalry scouted well to the front and on the desert flank of the column. Each night it halted by the river, so there was abundance of good water available. All other supplies it carried with it. Its marches were—

On the 18th,	Semneh to Wadi Atira.	10 miles.
„ 19th,	Atira to Tanjur.	23½ „
„ 20th,	Tanjur to Akasha.	25 „

As the distances show, the first part of the route was exceedingly difficult. The last day's work was a forced march. Resistance had been expected, but the Dervishes were nowhere to be seen. The advance to

Akasha was a complete surprise. The ruined fort, built in 1884, was occupied and repaired.

On the 22nd, the cavalry and camel corps returned to Sarras to act as the vanguard of a second column to Akasha. It started on the 24th, under the command of Major MacDonald, who had been selected as commandant of the advanced post. He had with him the cavalry and the company of the camel corps, the 11th and 12th Soudanese Infantry, and a convoy of 600 camels, laden with supplies. They reached Akasha by a four days' march on the 28th.

The day before, the first shot of the war had been fired from Akasha. A party of Dervish camel-men were sighted to the southward in the sandy khor that leads to Ferkeh. Promptly the Egyptian gunners of the mountain battery dropped a shell amongst them, and they retreated with one man killed and two wounded. Dervish scouts never showed themselves again in daylight in sight of Akasha. With MacDonald in command, the camp was rapidly fortified, and grew stronger and stronger week by week till the advance to Ferkeh. Naturally Akasha is a bad position to hold, but in war one cannot always choose one's position for its natural advantages. As the head of the old railway line it had to be held, and the best was made of it by a system of defence of which I shall have to say something presently.

Akasha was linked with Sarras by a chain of smaller fortified camps and posts along the river, at Semneh, Wadi Atira, Ambigol, and Tanjur, Posts at Melik-en-Nasr, Alimula, Sonki, and Okmeh were afterwards added to this line of posts, where the convoys could halt and camp in safety. But more than this, each post was a starting point for scouting parties that explored the desert eastward up to and beyond the old railway, while working parties from these camps improved the convoy route between them, till it gradually became something more like a road, and less like the dry bed of a boulder-strewn torrent.

The starting point of the convoys was Sarras, where every day one or two train loads of stores and railway material came up from Halfa. At first one convoy per week was all that could be attempted, but very soon two each week was the normal number, more transport being available. As a rule, the convoys consisted of three transport companies with 200 camels each. The camel's load was from 350 to 400 lbs. This is, I believe, much less than the load used in India; but in these desert marches there was a good deal of climbing over rocky passes, where the camel had not merely to carry, but to lift, the load, and where the collapse of one animal would block the track. Even with these lighter loads, there was a great difficulty in keeping the convoy closed up where the ground was at all rough. The day's march was about fifteen miles, the start being made at sunrise. The escort usually consisted of a squadron of cavalry and a small force of infantry, one or two companies. But very often troops moving up to the front would accompany the convoy and considerably strengthen this escort. Along a great part of the way the convoy route was open to attack from the desert, notably along the 12 or 13 miles from Melek-en-Nasr to beyond

the Sonki passes. Its safety was provided for by scouting well to the eastward beyond the track of the old railway. Later on, about the middle of May, the policy was adopted of diminishing the escort actually moving with the convoy, but watching the track at dangerous places with pickets or small permanent posts, the camel corps and the friendlies doing the scouting in the desert.

By this time, too, the steady advance of the railway had added considerably to the security of the northern part of the route, by practically establishing a new line of posts in the desert itself. At the same time the distance to be marched by the convoys was diminished, as first Murrat Wells and then the station at Ambigol Wells became the starting point.

The railway battalion had begun to work at the relaying of the line close to Sarras Fort at the beginning of April, first under the direction of Lieutenant Stephenson, R.E., and subsequently under that of Lieutenant Girouard, who came out from England as Director of Railways to the Expedition. Progress was at first slow, as the men had to be taught their work. The operation was a good deal simplified by the fact that the rails were lying near the place where they had to be laid, and the earthwork of the line was practically uninjured. In places, drifted sand had to be shovelled off the track. At one point beyond Ambigol Wells, a wide gap had been cut through an embankment by the rainflood of a very local thunderstorm, sweeping down a khor. I say very local, for along the rest of the line there was no sign whatever of a rainfall during the ten years since it had been abandoned. The railway iron that had been lying all this time in the desert was clean and free from rust.

The rails were single-headed, with a wide flat base. They were iron faced with steel. New steel rails were used for the more southern sections of the line, and doubtless the whole railway will be relaid with this more modern material. The gauge is 3 feet 6 inches, somewhat narrower than that of the Egyptian railways, and the same as the Cape lines.

Between Ambigol and Akasha some miles of the line were intact, saved from destruction by the Dervishes through being buried in deep sand drifts, which had merely to be cleared away with basket and shovel.

In relaying the line the system of working was this: First the rails were laid end to end on the bank, sufficiently far apart for the sleepers to be put down between them. Every four or five rails were fastened together, but only one bolt was screwed through each fishplate and rail-end. The sleepers were meanwhile placed in position, pegs driven beforehand at every hundred yards, marking the centre of the track. Gangs of men then lifted the rails on to the sleepers, and an officer saw the gauge was correct. No chairs were used, the rail being single-headed with a wide base. The hammer-men spiked them down direct on to the sleepers, and the second bolts were put through the fishplates. Then the last gang of all came along with shovels and crowbars, and the rails and sleepers lifted where necessary, and the ballast

shovelled in and packed. When the work was in full swing one could see the line creeping steadily on as one stood by the track, for it was then growing at the rate of about a mile a day, but it was not till near the end of April that the railway battalion had acquired sufficient skill to make such a result possible.

The working of the railway was frequently interrupted by trains running off and temporarily blocking the track. A rapidly improvised line like this with very defective rolling stock could not be relied upon as a means of supply, unless there was such a large accumulation of stores at the railhead as would enable supply operations to be carried on during these temporary interruptions of traffic.

The protection of the railway works was confided to the 7th Egyptian Battalion, under Colonel Fathi Bey, which camped with the railway battalion near the railhead and covered it with a line of pickets. This infantry guard was supplemented by a few cavalrymen, who formed Cossack posts on the hills to the extreme front. The station of Murrat Wells, reached by the railway early in May, was protected by a small fort and a couple of closed works, of stone breastworks topped with sandbags. When Ambigol Wells was reached towards the end of May, that more important, and also more exposed, position was protected by a fort mounting four heavy Krupps and a couple of machine guns.

But the real safety of this double line of operations in the Batn-el-Hagar, the convoy track near the river, the growing railway line further inland, lay in the elaborate system of obtaining information, organised by Major (now Colonel) Wingate, the chief of the Egyptian Intelligence Department. It would be difficult to praise too highly the work he did, work to which the complete and unbroken success of the Expedition was largely due. The whole story, or even any great part of it, cannot be told till the Khalifa's power is finally broken. When it is written it will be stranger than any romance. From Suarda, from Dongola, from Abu Hamed and Berber through Murat, and from Omdurman itself, through the branch Intelligence Office at Suakin, there came the reports of the agents of the Department. Daring Arab and Soudanese spies, who had carried their lives in their hands for months, returned with detailed information of what was going on behind the enemy's border line, and means were found to send up the river assurances to the tribesmen of the Dongola province that the Egyptian Army was coming only to break the power of the intruding Baggaras; that life would be spared when battle was done; property respected, and all goods paid for in hard cash. Every important movement of the enemy was known at the Sirdar's headquarters almost as soon as it was ordered.

Further, the relations of the Department with the tribes along the Upper Nile enabled the Sirdar to organise a small and extremely efficient force of friendly Bedawin allies to guard the desert tracks on the flanks of the Expedition, and to make bold reconnaissances up to and into the enemy's territory. Thus Abdul Azim Bey, with 200 Ababdeh scouts started from Murat Wells in the Korosko desert early in April, rode

southwards and westwards till he struck the Nile at Sehirri island, marched into the Shaiggiyeh country, and found no traces of the enemy, but heard from the people that some reinforcements had passed down to Dongola. He assured them that the Egyptians would soon be in Dongola as conquerors, and was assured by them in turn that they were longing to see the Baggaras driven back into Darfur. Then he returned to Murat, revisiting the Shaiggiyeh country again by the same route after Ferkeh. Abdul's scouts from the Murat outpost watched Abu Hamed throughout the campaign, and the friendly chief asked eagerly for permission to surprise the place, saying that if he had a company of Soudanese from Murat to back him he could do it easily.

Another Ababdeh Sheik, Bishir Bey, watched the roads that run from Assouan by the Wells of Haimur to Berber. Haimur was his centre of operations; he had a post at the Wells of El Koleib, on a track by which Dervish raiders had often got down to the Nile villages near Assouan. Another post held the Wells of El Ongat. He pushed reconnaissances south along the Berber track, but found only a few of the enemy near the Wells of En Negem, hostile scouts who retired as soon as they were sighted. Before Bishir occupied El Haimur, the wire between Murat and Korosko was cut two or three times. The presence of the Ababdeh posts on the flank of the line made it safe for the rest of the campaign.

On the other flank, the Expedition was protected by the river. But beyond the Nile there is an important caravan track which comes down from the south through the Selima oasis and the great oasis of Khargeh, reaching the river near Assiout. In 1884 Colonel Colville reconnoitred this route and reported that it was practicable for a force of not more than a thousand men. Larger caravans working in detachments used to follow it in the old days. In order to make quite sure that it was not used by Dervish raiders or even by scouting parties, the Ababdeh Fuggara friendlies, working on the west bank, watched it, and early in the campaign pushed a reconnaissance close up to the Selima oasis.

The telegraph was carried beyond Sarras in the third week of April, being rapidly laid by Lieutenant Manifold, R.E., along the convoy route.

Laying a telegraph line was in one way fairly easy work. There was no trouble about insulation. The dry sand was almost as good as a sheet of glass for the purpose, so a strong galvanised wire was simply laid along the ground. Later on it was raised on poles to keep it out of the way of accident from passing camels, but even then no insulators were used. Lying on the ground the wire gave far better results than the most carefully insulated English lines. The difficulty was really to get it "to earth," and the only way of doing this was to run some yards of the wire into the river. All the land was too dry.

A telephone wire was afterwards laid along the railway. In case of either of these wires being cut there was an organised system of signalling. Jebel Bringo, a high mountain in the Batn-el-Hagar, near Murat Wells, could communicate with Sarras, and Sarras passed on the signals by wire to Halfa. Even if that wire failed it could signal

through Gemai. There is always good sunshine for the heliostat among those desert hills.

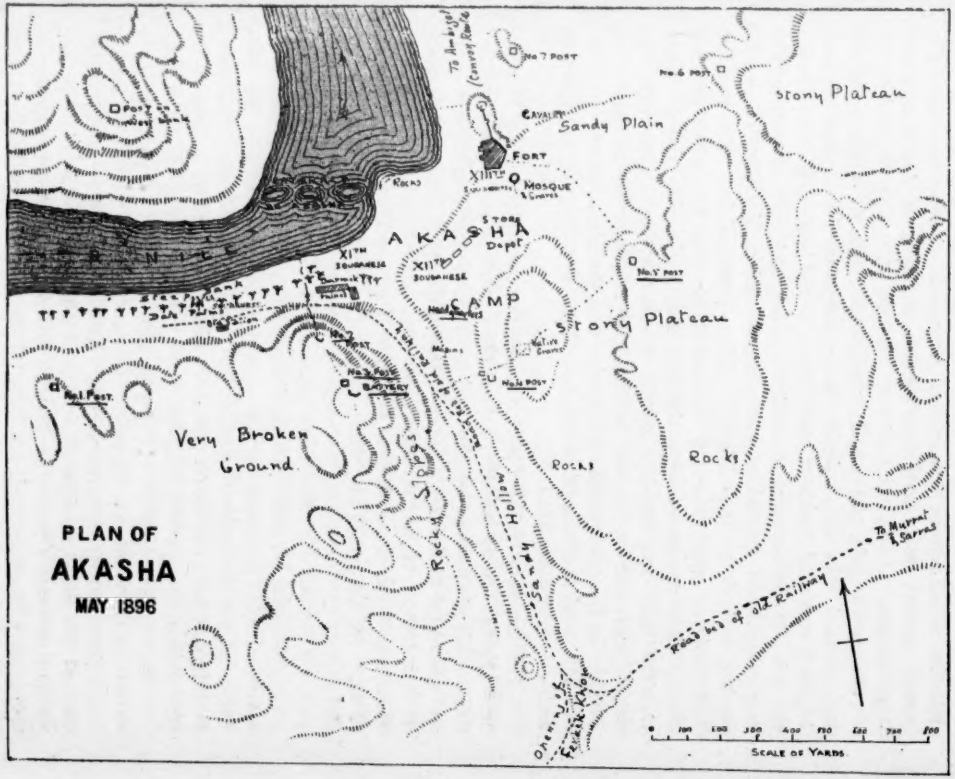
But the wires were never cut, and no attempt was made by the enemy on the convoy route or the railway line. The Dervishes showed indeed a strange lack of dash and enterprise. A single daring attack on a convoy in the early stages of the campaign might have led to a long delay in our subsequent advance, as, after such an experience, probably smaller convoys would have been used, marching more slowly, and with larger escorts.

In the Dongola province, till the end of April, the enemy's activity was confined to a few insignificant scouting expeditions near Akasha. In the direction of Suakin, Osman Digna in the beginning of April took the field, but failed to raise the local tribes, and after an unsuccessful engagement with the columns despatched against him from Tokar and Suakin, retired to the Atbara. His excursion into the province had, however, some effect on the campaign. The 9th Soudanese had already been transferred from the Red Sea to the Nile before Osman took the field, and the 10th were to follow, but they had to remain at Suakin, and were not moved to the Nile till the arrival of the Indian brigade set free the garrison for service with the Expedition.

All anxiety about Kassala was set at rest by Colonel Stevani's brilliant victory on April 2nd.

The first fight on the Upper Nile was the cavalry action on May-day near Akasha. In the middle of April the Dervishes had pushed a picked force of black riflemen (Jehadia) and Arab cavalry, camel-men, and sword and spearmen, to Ferkeh, a ruined village which they made the nucleus of their camp. Hammuda Idris, who commanded there, sent back to Bishara at Dongola mendacious accounts of successful attacks on the outposts of Akasha, and there came pressing exhortations to him to attack and capture the place. All the while he appears to have been quarrelling with his second in command, Osman Azrak, and with the Emir who commanded the Jehadia. These dissensions in the Dervish camp are the most probable explanation of the enemy's strange inactivity in the early weeks of the campaign. In the last week of April the Intelligence Department got information that there would probably be a move on the next Friday, the Moslem Sabbath, which happened to be the 1st of May.

By that time Akasha was a strong, fortified camp. Beginning at the river bank there was an inner line of screens made of railway iron or small girders, stone breastworks, and wide belts of thorny zereba hedge. Beyond this were the outlying posts, a blockhouse on the high ground to the right, with a battery armed with two guns close to it, where there was a good view over the desert hills. A heavy sand-bag breastwork, with the Maxim battery ready behind it, looked down Ferkeh Khor. Two small stoneworks carried on the line to another blockhouse on the left front, and thence the line ran back to the old fort. Outworks were constructed on a couple of rocky knolls beyond it, and there was an advanced work and look-out station half a mile beyond the general line up the Nile bank, and a small fort on the hill on the west bank. The


PLAN OF
AKASHA
MAY 1896
AKASHA
CAMP
FORT
MOSQUE
STORE Depot
No 1 POST
No 2 POST
No 3 POST
No 4 POST
No 5 POST
No 6 POST
No 7 POST
Very Broken Ground
Stony Plateau
Sandy Plain
Rocks
Hollow
Road bed of old Railway
To Murrat & Sarras
To Amara (Convoy Road)
SCALE OF YARDS

ranges in front of the works were plainly marked, and all the advanced posts had a good supply of water and cartridges.

Hammuda probably knew better than to try to rush such a place as this. But he had to do something, and he made a demonstration on May-day with about 1,000 men, cavalry, camel-men, spearmen, and some riflemen. They were stopped six miles from Akasha in Ferkeh Khor by three squadrons of cavalry under Major Burn-Murdoch. The ground where the action took place was utterly unfitted for ordinary cavalry tactics. It is about the roughest bit of ground in the whole valley. I rode over it later and saw the Dervish horses still lying dead among the rocks, though it was some weeks after the action. The essential facts as to the fight may be given very briefly. Burn-Murdoch went out to look for the enemy, followed by half a battalion of Soudanese in support. He got touch with the enemy's scouts, followed them up, and, halting his column, pushed on with a few men to see what they had behind them. He found the enemy 1,000 strong on ground where no cavalry in the world could charge. He rejoined his force, and was retiring along the Khor to rejoin his infantry before taking further action, when the Dervish cavalry, misinterpreting his motives, came after him. He faced his squadrons about, and the enemy retreated; a few men only on both sides got close enough to use their weapons, and a few Dervish desperadoes who would not retire were ridden down. The enemy's cavalry withdrew behind their infantry, who advanced firing. Burn-Murdoch met them and stopped them by dismounting his men and opening a heavy carbine fire from the rocks. The Dervishes then drew off. When the Soudanese came up it was decided not to advance further, as the men were exhausted with the intense heat. One of the Soudanese had just died of sunstroke. This repulse of a superior force of the enemy had an excellent effect on the whole of our army at the front.

Second Stage of the Campaign.

During May the only movement made by the Dervishes was a half-hearted demonstration against the outposts at the railhead in the last week of the month. The railway had then reached Ambigol Wells, and as the simplest method of protecting its further progress south, and putting a stop to a series of raids which, according to the Intelligence Department reports, the enemy was now contemplating, it was resolved to break up the Dervish camp at Ferkeh in the first week of June.

There were nearly three months' provisions for 10,000 men accumulated in the depôt at Akasha, so a move southwards was fully justified. The possession of Ferkeh was further necessary in order to commence as soon as possible preparations for carrying the railway to the Nile bank above the Dal Cataract.

The prolongation of the railway beyond Ambigol Wells was temporarily suspended. The railway battalion and some companies of recruits took over the guard of the line of communications. The 6th Egyptians were sent up to garrison Akasha. The rest of the Army, strengthened by the 10th Soudanese from Suakin, was concentrated in the

first days of June, in a great camp along the Nile, from Okmeh to Akasha.

If the Sirdar's object had been merely to clear the enemy out of Ferkeh, there would have been no need of such a large concentration to the front. I believe MacDonald, with the Soudanese Brigade, a mountain battery and the Maxims could have done it any time in May, though it would have cost a very hard fight, and more loss than was actually incurred on June 7th. But the Sirdar meant not merely to get possession of Ferkeh, but to deal the Dervishes of the Dongola province a crushing blow; not simply to defeat, but to destroy their advanced force, and to follow up the victory by clearing the country of them right up to Suarda.

The orders for the advance to Ferkeh were issued on Saturday, June, 6th. Up to the last moment, though everyone knew a battle was impending, the secret was well kept in our own camp. The enemy seem not to have expected that the Sirdar would advance till the railway was finished up to Akasha.

There are two routes from Akasha to Ferkeh, known respectively as the "desert route" and the "river route." Both start by the same sandy valley, the Ferkeh Khor, which runs nearly south out of the semi-circle of rocky hills that surrounds Akasha. About a mile out another valley, Khor Shargosheh, strikes off the right towards the Nile, and it is at this point the river route begins, so called, not because it follows the river bank, but because at three points it touches it. For a great part of the way it runs through the broken ground between Dal Mountain and the river. Dal Mountain is the highest point of a mass of hills, of which the mountains just south of Akasha form the northern, and Ferkeh Mountain the southern extremity. Along the valley eastward of this mass, and dividing it from another range of low hills, runs the desert route, which joins the river route close to Ferkeh.

The whole distance from Akasha to Ferkeh is about eighteen miles. The desert route was fairly easy ground for an army to traverse. But the river route, which at one point north of Sarkamatto village, ran along a mere shelf of rock above the river, must have seemed to the Dervishes all but impossible. This was doubtless one reason why the Sirdar choose it for the line of his main advance—for surprise was a large element in his plan.

His idea was to attack the Dervishes in two columns, one by the desert, the other by the river route. The desert column was composed chiefly of mounted troops, and was placed under the orders of the cavalry commander, Major Burn-Murdoch. It was made up of the following troops:—

Captain Young's Horse Battery, 6 guns.

The North Staffordshire Machine Gun Section, 2 Maxims.

Six Squadrons of Cavalry, 800 sabres.

Major Tudway's Camel Corps, 670 rifles.

The 12th Soudanese (Townshend), 717 officers and men, mounted on transport camels till they reached the scene of action.

In all, Major Burn-Murdoch had about 2,400 men in his column. His orders were that they were to be in position on the east of Ferkeh by half-past four o'clock on Sunday morning. The hour of sunrise was eighteen minutes past five; and they were told that about five o'clock they would hear the fire of the river column as it came into action. Burn-Murdoch was to keep his own force well back, so as to be out of the field of fire of the river column, and, as soon as he heard it, was to open with his artillery on the Dervishes. He was especially to use his guns and Maxims, to prevent and break up by flank fire any attempt of the enemy to mass for a charge. As soon as Ferkeh village was taken he was to have his cavalry and camel-men ready to fall upon the retiring Dervishes, and pursue them southwards, preventing them rallying, and destroying or capturing as much as possible of their force.

The Sirdar took personal command of the river column. It was made up of two batteries of mountain guns (twelve pieces), two Maxims, manned by the 2nd Connaught Rangers, a few cavalrymen for scouting purposes, and for its main body Hunter Pasha's infantry division of three brigades of three battalions each.

1st Brigade.	2nd Brigade.	3rd Brigade.
Lewis.	*MacDonald.*	*Maxwell.*
3rd Egyptians.	9th Soudanese.	2nd Egyptians.
4th ,,	11th ,,	7th ,,
10th Soudanese.	13th ,,	8th ,,

The total strength of the river column would be about seven thousand men. In the rear of the 3rd Brigade marched the field hospital, carried by one hundred camels, and another hundred camels laden with the reserve ammunition.

To go into the details of the fight at Ferkeh would take up too much time. Suffice it to say that the Sirdar's plan worked out admirably. The ground over which the columns were to move had been carefully reconnoitred and mapped. The Intelligence Department had issued a memorandum to every officer giving a detailed account of the enemy's position, armament, organisation, and leaders, with a rough plan of their camp indicating the position of their outposts, which, as usual with the Arabs, were so close in as to be all but useless at night. The night march afforded an admirable test of the discipline of the new Egyptian Army. To reach its bivouac near Sarkamatto the nine battalions, the two mountain batteries, and the staff and hospital and reserve ammunition columns had to pass by starlight along a mere shelf of rock between a bold spur of the mountains and the upper reach of the Dal Cataract—a feat in night marching of which any army might be proud. At dawn the Dervishes were attacked, the infantry and the mountain batteries coming up the river bank, and then, after the fighting line had deployed, pivoting on their right so as to attack the desert front of the village as well as its north end. The heavy guns and the mounted troops were on the hills to the eastward. The Dervishes made a much greater use of rifle fire than in most of their previous battles; but, as they never have any rifle prac-

tice and have never even dreamed of such a thing as fire discipline, their bullets found few billets. The Egyptian infantry marched, deployed and fired as if they were taking part in a big field day. The attack was made in close order, without any extension. "Steady drill" certainly scored a triumph in the way in which those well-drilled Egyptians advanced in line against the Dervish position, nearly all the rank and file of the purely Egyptian regiments being men who now heard the whistle of an enemy's bullets for the first time. The Dervishes tried one or two minor rushes, but never massed for a grand charge in the Abu Klea style. The possession of so many rifles, and the experience of what rifle fire could do against them in our own Soudan battles, seem to have led to a change of tactics. They fought splendidly and lost heavily. Caught as they were by the double attack of the two columns, it would have been possible to have absolutely cut off all retreat to the southward. But the better plan was chosen of letting the *débris* of the Ferkeh force stream away to the southward, breaking up any attempts to rally, keeping the beaten Dervishes on the run and destroying their force piecemeal.

At 5 a.m. on Sunday the battle of Ferkeh was just beginning. At 5 a.m. on Monday Burn-Murdoch had captured Suarda; and fifty miles of the Nile valley, including the whole of the once rich Dar Sukkot district, had passed into the hands of the Egyptians. So great was the impression produced by the destruction of the picked force gathered at Ferkeh, and the fall of three-fourths of the fighting Emirs who had been selected to command it, that no real stand was made after that against our advance in the Dongola province.

Third Stage of the Campaign.

Having described so fully the methods adopted and the results obtained in these first stages of the campaign, I may deal more briefly with its close.

During June, July, and the greater part of August, Suarda, fortified and garrisoned by MacDonald's Soudanese brigade, was the advanced post. The Dervishes abandoned their posts near the Kaibar Cataract in presence of an Egyptian cavalry reconnaissance in the middle of June, and henceforth their advanced positions were above the Third Cataract, Kerma on the east and Hafir on the west bank.

The railway reached Akasha at the end of the third week of June. After this its progress was slower, as it was a case of laying a new line, not relaying an old one, and all the railway iron had to be brought up. The earth-works were constructed in advance by the Egyptian infantry. The line reached Ferkeh on July 25th and Kosheh on August 4th. A dockyard was organised there for the construction of the new steamers that were being sent out from England in sections.

There was a bad Nile, making the passage of the Second Cataract by the steamers exceptionally difficult, and considerably delaying the advance of the expedition. It had been hoped that the four stern-wheel gunboats and three of the other steamers would be up in July. It was not till August that they even began the ascent of the cataracts.

Further delay was caused by a severe outbreak of cholera, which had never before penetrated to the Soudan.[1] And, as if every possible difficulty was to be thrown in the way of the Sirdar's enterprise, those proverbially rainless deserts were suddenly swept by a series of rain storms which turned every khor into a raging torrent and swept away miles of the new railway on the eve of the general advance.

At length towards the end of August all was ready for the march upon Dongola. The gun-boat flotilla had been assembled above the cataracts at Kosheh, where one of the new boats from England armed with Q.F. guns was approaching completion. A large supply of stores had been collected at Kosheh railhead, and water depôts had been formed on the desert route from Kosheh camp across the bend of the Nile to Sandin Fenti. That place was occupied by the Soudanese brigade on August 23rd. They are said to have lost 29 by sunstroke in the desert march. This will give some idea of what Soudan campaigning in the summer means. The Sirdar's army had been strengthened by bringing up the North Staffordshire Regiment to the front, and by forming a fourth infantry brigade under Major David, R.M.L.I., out of the 1st and 5th Egyptians, and the 16th Reservists. The R.M.A., under Captain Oldfield, supplied a party of trained gunners for the flotilla, and the Navy was further represented by Commanders Colville and Robertson and Lieutenant Beatty, who commanded three of the stern-wheelers; Colville, as senior officer, having the chief command of the little fleet.

Even if the enemy had been disposed to make a serious stand their chance of anything like a long resistance was negatived by the Sirdar's having a powerful gun-boat flotilla to act with him. The fight at Ferkeh would not have lasted for two hours, as it did, if the river had been high that Sunday morning, and four steamers had been sending a shower of shells and a hail of machine-gun bullets into the Dervish flank and rear, and threatening to sweep their line of retreat with this murderous fire. On the Upper Nile he who holds the river holds the country on both sides to an extent that is probably not the case with any other river. Until Berber is passed there is not a single tributary stream flowing into the Nile. Except at the desert wells, which have usually a scanty supply, every drop of drinking water must come out of the river. Only small parties can trust to the desert wells, and these are far away from the banks. Where there is a belt of cultivated land, the water is supplied by irrigation channels fed by *sakkiyeh* wheels on the river bank. To stop these wheels is to force whoever wants water to come down to the bank for it, and an army cannot draw water for its thousands of men and beasts under the fire of a hostile fleet of gun-boats, whose electric lights can watch the banks even during the hours of darkness. To retire along the river with a gun-boat fleet on the flank, or steaming ahead, would therefore

[1] It would not be easy to exaggerate the services rendered to the expedition—especially at this trying time—by the Medical Officers attached to it, or to praise too highly their zeal, energy and self-sacrificing devotion to duty, in which one of the too small number lost his life.

be destruction, and it was a safe prediction that once the flotilla passed any Dervish position it would be promptly evacuated by the enemy.

On August 27th, the 1st Brigade marched across the desert to Absarat. It was caught in the same storm that wrecked the railway, and suffered severely. The reconstruction of the line delayed the advance till the second week of September, and it was on the 16th that the whole army was concentrated at Fereig ready for the final march upon Dongola.

On the 18th, it had reached the Nile bank near the lower part of the Third Cataract, which the gun-boats were ready to ascend—an easy matter in the actual state of the Nile. The Dervish position at Kerma was to be attacked next morning. The four brigades were formed in line of columns, the right resting on the river, the desert flank covered by the camel corps; the cavalry and the horse battery moving out in front; the gun-boats were working up the cataract. When Kerma was reached it was found that the Dervishes had all retired to the west bank.

It was soon discovered that they intended to try to stop the progress of the expedition at Hafir, where they had dug rifle pits along the river margin, and constructed a battery armed with five guns. Led by Colville the gun-boats forced their way past the battery, the Egyptian artillery co-operating by shelling the Dervish position from an island in the river. The enemy abandoned their camp in the night, the gun-boats having pushed on to Dongola.

Next day the Sirdar began to ferry his army across the river at Hafir, the very spot, by the way, where the British rear-guard crossed the Nile on retreat from Dongola in 1885. The Dervishes made some show of making a stand at Dongola town, but on the 23rd they retreated without fighting on the advance of the army. Numbers surrendered, others dispersed, the cavalry and camel corps pursued the utterly dispirited remnant, while the gun-boats steamed on to the head of the open water at Merowi, occupying Debbeh on the way. By the end of the month there was not a hostile Dervish in the Dongola province. Osman Azrak with a handful of those who escaped from Dongola was reported to be at the Wells of Abu Klea watching the old route of the desert column to Metemneh.

Dongola became the capital of the reconquered province. Frontier garrisons have been established at Debbeh, Ambukol, and Merowi, with posts of friendly natives guarding the desert wells on our side of the Bayuda. A reconnaissance pushed within fifty miles of Abu Hamed by Captain Broadwood reports that the Dervishes have now a very small garrison there.

The next stage in our march upon Khartoum will be the laying of a railway, a branch of the Soudan line, from near Halfa to Abu Hamed, the seizure of that place, and the launching on the Upper Nile, above the formidable cataracts that now bar our advance, of a gun-boat flotilla more numerous and more powerful than anything that has yet been seen on any African river. Our success so far, and the experience we have gathered, means that the way is now open to Khartoum, and that if the unforeseen does not come in to change the conditions of the problem,

the barbarian standard that now flies over Khartoum and Omdurman will be hauled down before the world is much older, and Mahdism as a factor in African politics will be a thing of the past.

[At the conclusion of the lecture a number of photographic views taken by Captain Atteridge, and illustrative of the campaign, were exhibited.]

NOTE TO LECTURE.

EXPENDITURE OF AMMUNITION.

At the BATTLE OF FERKEH and in the subsequent pursuit—

Horse Battery (7½-centimetre Krupp guns, throwing a projectile weighing 9·46 lbs.):—

Common Shell - -	37
Shrapnel - - -	50
Case - - - - -	4

Mule and Camel Batteries (6-centimetre Krupp guns, projectile weighing 7·48 lbs.):—

No. 2 Battery— 11 rounds per gun; also
30 ,, carbine, and
12 ,, revolver.
No. 3 ,, — 11 ,, per gun.
Maxim ,, —350 ,, ,,
Infantry—Highest expenditure in any battalion, 17 rounds per rifle.

At the BATTLE OF HAFIR—

No. 1 Battery (Horse Battery)— 47 rounds per gun.
No. 2 ,, - - - — 31·3 ,, ,,
No. 3 ,, - - - — 18 ,, ,,
Maxim ,, - - total—950 ,,

GUN-BOATS AT HAFIR AND DONGOLA—

"Tamai":—
9-pr. Armstrong, 114 rounds; 8 rockets; Nordenfeldt, 1,115 rounds; Maxim, 800 rounds.

"Metemneh":—
9-pr. Armstrong, 165 rounds; 2 rockets; M.-H. rifle, 1,910 rounds; Maxim, 1,500 rounds.

"Abu Klea":—
9-centimetre Krupp, 298 rounds; M.-H. rifle, 32 rounds; Nordenfeldt, 272 rounds; Maxim, 3,140 rounds.

"Zafir" (new gun-boat):—
12½-pr. Q.F., 14 rounds; 6-pr. Q.F., 47 rounds; Maxim, 12 rounds.

A. HILLIARD ATTERIDGE.

THE PROFESSIONAL STUDY OF MILITARY HISTORY.

By Colonel LONSDALE HALE (late R.E.).

Wednesday, March 17th, 1897.
Major-General Sir W. F. BUTLER, K.C.B.,
Commanding South-Eastern District,
in the Chair.

LECTURE.

DR. MAGUIRE brought before us, a few days ago, the Study of Military History, as a factor in the Training of the Nation; to-day, I bring that study again before you, but this time as a factor in the Training of the Soldier. The two uses of the study must be kept separate, and must not be confused with each other. To emphasise the difference between them, I have introduced into the title of this lecture the word "Professional."

But, as a military instructor, a military lecturer, I cannot but regard with dislike the title by which the subject of this lecture is generally known; for in it are two words, which, unfortunately, cause not a few officers, but many, to entertain strong prejudices against the subject itself, if not to neglect it or ignore it altogether. The first of these words is "Study," the second is "History," each, in the opinion of these officers, bad enough alone, but when in juxtaposition, forming a combination absolutely detestable. For the corps of British officers consists mainly of men who, if asked the now historic question, "Is life worth living?" would reply with a decided affirmative; but with this answer would be coupled an equally decided reservation, that a very large proportion of the life must be spent in fighting and thrashing somebody or other, this exciting occupation being, at the same time, combined with overcoming those physical obstacles, which—in the form of well-nigh impracticable snow-covered mountain passes, such as lie between India and Chitral, of Burmese and Ashantee jungles, of the waterless deserts of the Soudan, or of the fever-breeding rivers, which are the highways into the heart of Africa—Nature seems purposely to have placed in their way. To the men who regard these unpleasant places as "happy hunting-grounds," men of sinew, thews and muscle, sound in wind and limb, men whose forefathers won, and who themselves are maintaining the territory acquired, and, perhaps, winning yet more, "study" is a

brain labour both irksome and exhausting; "history" is to them a bad dream, which, in sleep only, after some indigestible repast, comes back to them, recalling in nightmare fashion all the horrors of "crammers," and of the Literary Competitive for Sandhurst or the Militia. I gladly acknowledge that among these officers are a few who take pleasure in literary study also, and from time to time prove that they can use the pen as effectively as they wield the sword; but these are the exceptions.

With the feelings of the officers who form the majority, I, though a life-long literary student, have the deepest sympathy; I enter into their feelings thoroughly, for I have accepted the teaching of a lesson taught me, years ago, by a very clever woman, the wife of a general officer well known to many of my cotemporaries. "What a pleasant thing reading is," I happened to remark to her. "Pleasant?" was the reply, "I hate it." "You hate reading," I said, in utter amazement. "Yes," rejoined my friend; and she continued: "When I want to get hold of some fresh ideas and fresh facts by your pleasant reading, I have to put in front of me a lot of pages of paper, on which are a number of horrid black marks; and there I have to sit or stand, staring at these black marks; and when, after an hour or two of staring, and my eyes aching and tired with the work, I throw the book aside, I, perhaps, find that all I have got out of the marks is one fresh idea, and half a doubtful fact. Reading gives one a lot of trouble, and, except from a lot of reading, one gets very little out of it." And anyone who has ever tried to prepare a lecture on one single battle, save by the simple process known as "scissors and paste," will agree with my friend, that one does get very little even out of a fair amount of reading. And only the other day, a rising staff officer whom I found in this Institution, studying a campaign, looked up from his books and said to me in weary tones, "What a bore this reading is, this being able to get at the facts only by reading." This, gentlemen, is how reading, involved necessarily in the word "study," is naturally and fairly regarded by a large number of officers of that physical and mental constitution I have indicated to you.

Yet the study of military history, which involves the persistent gazing at a number of these hateful black marks on paper, seems to me to be a necessary part of the training of every officer, senior and junior, old and young; for the mental food thus absorbed strengthens the military mind, and makes any one—no matter the number of the military expeditions in which he may have taken part—a more efficient, a better soldier than he would have been without it.

To offer military history, as such, to the non-reading officers, is, however, as thankless a task as is putting before a high-spirited horse a feed of corn in a trough, at either end of which a black flag, bearing a death's head and cross-bones, flutters in the breeze. He is sure to shy at the flags and to bolt away. Yet eat the corn he ought. Cannot it be brought to his notice in some other way, one which, perhaps, so far from repelling him, may even attract him?

I will take that objectionable word "history" first. What is history of any kind? It is the recorded experiences of the past. Then as to

the word "study." When we study anything, we are utilising it; so for "study" we may fairly, if not with academic precision, substitute the word "utilising." The subject of this lecture stands now, therefore, "The utilising by soldiers the recorded military experiences of the past." And for reasons which will be apparent as I proceed, I ask even the most diligent student of military history who may be present in this theatre, to think of this subject solely in the new form in which I have just presented it to you, "the utilising the recorded military experiences of the past."

And now let me recall to your minds certain features in these experiences, taken collectively. As to amount, they are innumerable; as to time, they are found in every period of the world's history; as to locality, there is hardly one of the countries, if one, into which the surface of the globe is mapped out, from which they cannot be gathered; as to subject, they include every single incident, small or great, with which a soldier, be he full private or full field-marshal, has to deal, or which he encounters in the field; as to the form of record, every conceivable shape, from the letter home to friend, wife, or mother, to the Commentaries of Cæsar. And what a strange collection of contrasts! some, as regards importance or survival in memory, as far apart as the poles. Alexander leading his hosts to India; a cavalry subaltern leading a patrol into Vendôme; the point of an advanced guard marching through a hostile village in France; Hannibal crossing the hostile Alps; an encounter of five or six squadrons at Boiscommun in 1870; Ziethen or Seidlitz hurling their vast hosts of cavalry against a foe; the punitive expedition to Benin; the hordes of Barbarians marching on to Rome; Cæsar, the mighty Cæsar, bridging the Rhine; a German company leader scrambling over the Saal by means of a skeleton framework in a "Fog of War."

And all these innumerable facts lie deposited in strict chronological sequence, in historic strata like those of geological formations; those most approaching the facts of to-day above and near at hand, those most divergent from them deep below. But, strange as it may appear, although each and every one of these recorded experiences is history, the more important facts are sometimes only those which are regarded as military history, and it is to them that this high-sounding title is appropriated. Against this I feel bound to protest; every recorded military experience is part of military history, and, therefore, military history includes all. But, I mention this confidentially at present, because one of the objects of this lecture is to put a certain amount of salt on the tails of some very wary military birds, and if I, prematurely, let out that these experiences are the same thing as military history, those same birds will spread their wings and fly off before the operation is completed, just as the horse shied off from the flags with the death's head and cross-bones.

Now, gentlemen, as regards utilising these experiences; and first, the purpose in view in utilising them. One purpose may be the increase of a man's knowledge generally; another, the mere satisfaction of a taste for historic knowledge; but one, and only one, shall I put before you in this

lecture, namely, the increase of personal professional efficiency, the making the soldier a better soldier, the enabling him to do better the work which lies before him in the field to-day and to-morrow. But since soldiers are of all ranks and all ages, the work before them is not the same for all. A general in utilising the experiences will need some of one class, a subaltern those of another class; moreover, the searchers after them differ in military knowledge; some of the experiences which to old soldiers are simple and clear, are Hebrew to the young soldier; the elder men will know how to utilise them, the younger require instruction in their use; how then, according to my view, these experiences should be utilised by officers at different times in their career, will now be submitted for your consideration and criticism; for merely to tell officers to utilise the experiences, or to "study military history," as the phrase runs, is like setting up before him a sign-post with the inscription: "Follow this road; it leads anywhere, and everywhere but—nowhere."

To prepare himself for the work, which, when next the officer takes the field, he may have to carry out, must be the purpose for which he utilises these experiences. If a long and assured peace were before him, this purpose might not stand in the forefront; but as no one can rely on such a peace, this remains the first object.

Take him, therefore, at the outset of his career as a cadet at the R. M. College. In the event of war breaking out, it is probable that all the cadets in the senior of the three terms would at once be commissioned; so that before he arrives at that term he should be well on in his preparation for the work which falls to a subaltern in the field, and even for the work which lies in a company command.

Many and various are the branches of military work in which, in and out of doors, he has to be initiated during his residence of the College, and but little time, proportional to the importance of the subject, can be found for instruction in what may be called his tactical work. All the more need, therefore, to keep steadily in view the one purpose of the preparation of this company officer in embryo, and not to allow the instruction to go prematurely into flights beyond. It is often forgotten that many cadets, on joining the College have no notion of the real meaning of even such simple terms as battalion, squadron, battery, or brigade. Few but those who know cadets realise that the minds of many are, as regards military matters, like blank sheets of paper. The form the study of tactics should, and in fact does, take at the College is, first learning the theory of tactics, and then working out small problems on the ground—tactical exercises. But it is the arms in use on which all tactical operations depend; and therefore, this foundation, the nature and power of the arms in the hands of soldiers to-day, must be securely laid before proceeding to the erection of any superstructure in the form of a tactical exercise.

Do not the field-days at Aldershot, and manœuvres, show conclusively that it is the absence of realisation of this power of

modern firearms, by even senior officers, that is the cause of the tactical operation being, as it sometimes is, a tactical anachronism?

In teaching any subject, we may commence with the inculcation of principles; but it is necessary that all teaching shall include illustrations of those principles; otherwise, although the principle may for a time lie on the surface of the brain, it may fade away, slip off, or not sink deep enough into it to fructify in the form of application to practice. Moreover, a principle is a bare abstraction, and the illustration is necessary to vivify the principle, and to explain its application to practical life. The illustration we use—the recorded military experiences of the past—is the instrument by which we fix securely the principle on the memory of the listener, and force it in deep enough to take root, and bring forth fruit in practical work. We have also, from time to time, to give to our pupils the mere dry facts called general statements, in which we may tell the cadet that the artillery to which his men will be exposed may be destructive at even 4,000 paces. We may tell him that an open, bare, gentle slope is, if possible, to be shunned by him when leading his half company, for it will prove to be for them a deadly charnel-house; we may tell him that if artillery dare to come into action against his men at even so great a distance as 7-800 paces, it will be due to the bad shooting of his men if the battery does not pay a terrible penalty for its daring; but we cannot prove to them by actual experiment the truth of our statements. Moreover, a mere bald catalogue of distances is remembered for examination purposes, mainly like the arithmetic table which tells us that two pints make one quart, four quarts one gallon.

But the recorded military experiences come to our aid in lieu of experiments, and they serve like pictures in a book to bring out more clearly the meaning of the words and to excite interest in the minds of the readers. We should select for our future officer illustrations and experiences from that stratum of the mass in which the conditions and the powers of the arms employed, most closely approximate to those of the arms which will be in the hands of his men and of their foes. By diagrams drawn to scale, or by distances marked out on the ground, we may bring home to his mind the destruction at Sedan of a team of artillery horses by Kraft's shells at a range of 4,000 paces; or Prussian guards, mounting in too close formations the glacis of St. Privat; or lastly, the Prussian batteries on the east of the Gravelotte ravine, and under fire at 700-800 yards distant, and losing all their officers, three-quarters of their men, and more than their complement of horses.

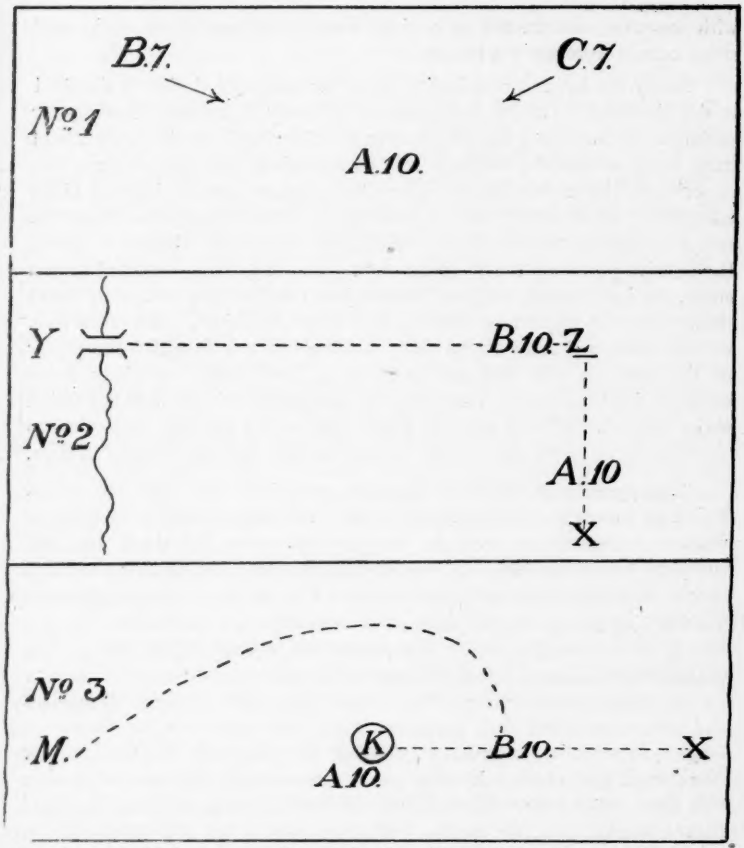
And with this first impression, this impression we wish to convey to the cadet at an age when the mind is most receptive of impressions, nothing counter must be allowed to interfere. Experiences blurring the power of the impression must be kept for the present out of sight, or far away in the background. But eighteen months ago I happened to be present, when cadets were for the first time in their lives listening to the description of a real battle. In that battle one of the recorded military experiences used was a battery of 78 guns coming into action at 6-700 yards distance with perfect safety against infantry armed

with weapons constructed at a time when even percussion locks and rifled barrels were not yet known.

Surely, so far as preparing a cadet for company duties in the field to-day, the recorded military experiences of Cressy, Agincourt, Hastings, or perhaps Jericho, would have been as instructive; and certainly they would have been preferable, because the young mind will not confuse the experiences drawn from battles where the weapons are of different kinds altogether; whereas they may confuse those drawn from battles where the weapons used are nominally the same, and where the difference lies in the relative power of the weapons only. The experiences utilised at this stage, the introductory stage of instruction, must be only and solely those drawn from the uppermost stratum, that latest deposited. But on service, the subaltern will come across many incidents of war in which the power of the arms in use does not enter as a factor, and especially those connected with security duties and the stratagems of war, or those which show the value of high *moral*. There can be no possible objection to drawing for these on any stratum of experiences, however remote in time.

The preparation would be far from complete, were not the cadet, before he leaves the College, made acquainted with certain principles of warfare applicable to even the smallest encounter in which his half company may take part; and the teaching of these is simplicity itself, as simple as are the principles themselves. The mode of teaching them I will show by giving that of three of the principles. Those of my hearers who have been present at any of my narrative lectures on the war of 1870, or that on the "Fog of War," will remember the many square yards of paper I covered with diagrams, in order to render the subject of the lectures clear and understandable; and, therefore, I am sure they will acquit me of laziness if, on this occasion, I substitute for diagrams of that kind the blackboard and chalk. Endless paper covered with a network of spider-web lines, small red or black circles to mark places, and stencil-plated names would have, no doubt, added dignity to the exposition of the principles to be illustrated by them; but for practical purposes the blackboard and chalk do just as well, in fact better, as they are consistent with the simplicity of the principles.

No. 1.—A is a party of 10 cadets. B and C are hostile forces each of 7 cadets, advancing in the direction shown by the arrows. A is nearer to B and also to C than these two are to each other. I remark to A, the 10 cadets, that if they await the arrival of both B and C they will be attacked by 14 cadets. I remind A that they are stronger than B or C taken singly, and I ask A how they purpose to act so as to beat the allied foes. Nearly all the young men who enter Sandhurst by the competitive examination possess a certain amount of intelligence and common sense, so I do not doubt that they would at once say that they will go for the 7 cadets B or C and thrash them, and then turn on the 7 others and repeat the process. They might, however, hesitate to give an answer at once, believing, on account of the apparently simple character of the problem, that it was one of the examination-conundrum order, and of



the class of which an example may be found in: "Why does a miller wear a white hat?"

No. 2.—10 cadets A are advancing from X to Z, 10 cadets B are advancing from Y to Z by roads at right angles to each other; the road by which B have come is the only one over the river shown on the board. The dinners are to be ready at X and Y after the fight. When B sights A, they turn to the right and face A. I now put to the 20 cadets the following question: "Which side, if beaten in the fight, has the least chance of getting its dinner?" Result of question—a general impression that "teacher" is "pulling their legs."

No. 3.—After a light breakfast, 10 cadets A go out from X to hold the knoll K, leaving orders for lunch and dinner to be sent from X to K at 1 p.m., and 7 p.m. Meanwhile, 10 cadets B go out from M, also after breakfast, to get A off the knoll. Each cadet of this party has a full haversack of food and drink. B steals out of sight round the knoll, and, at about 12.30, when A, getting hungry is looking towards X for the men bringing the lunch, he sees B 10 cadets come between the knoll and X,

and sit down and commence eating theirs. You will observe that each party now finds his opponent between themselves and their respective bases—I apologise, I mean kitchens. I think that by the time B have finished lunch and have lighted their cigarettes, the meanest intelligence among the A party, acted on by the crying demands of empty stomachs, will have been awakened to the discovery, of which of the two parties is in the least pleasant situation owing to the enemy being upon the line between themselves and their kitchens—I apologise, I mean their bases.

Three or four additional *argumenta ad homines*, and of a similar character, but with which I will not occupy your time, would be given them, and then I should tell them that although I had explained to them these principles as guides to leading companies or half companies, yet they must remember that when Frederick or Napoleon moved their armies in great campaigns, it was these same principles they tried to follow, and no others. Perhaps one of the party would be incredulous on the subject, and would tell me that his elder brother, who was cramming for the Staff College, had told him that he was learning how generals had moved their armies, and that the principles they followed were called by a very big name, the "eternal principles of strategy," and that he was about to buy a thick quarto book in a red cover to learn what they were. My reply would be, that I was not responsible for his brother's outlay of money, judicious or injudicious, but that if the elder brother's object in buying the book was to find out what the principles of strategy are, he might spare his purse, and save much time by reading the notes of his younger brother on the little tactical exercises we had just carried out, for the principles were identical, no matter by what name called.

Initiated into the art of war in the manner I have described, the cadet leaves Sandhurst thoroughly prepared for his work as a company officer, and with the theory of war secured in his memory by the experiences recounted to him, and most applicable to the fighting of to-day; and I think that most officers commanding battalions or companies would regard such a recruit as having been very sensibly prepared for the work which he may have to carry out in the field under their orders.

I do not, however, venture to claim for him the high position of military historian and military critic, to which the cadets, the soldiers of barely one year's standing, and many of them not out of their 'teens, now justly hold. No cadet taught on the system here advocated could have obtained many marks in reply to the questions given at the R. M. College last December in a paper headed Military History. And my reason for bringing this particular examination paper to your notice is that, in my opinion, it affords an excellent illustration of the different way in which the subject of my lecture is regarded, when it is treated as the study of military history, instead of being treated as the utilising for practical purposes the recorded military experiences of the past.

Of the three questions, one ran as follows:—"Describe, shortly, the position occupied by Wellington's army at the battle of Waterloo, pointing out its strong and its weak features." (50 marks.) For fear you may

have forgotten your dates, I must remind you that the date of this battle is 1815. Of course, so far as rendering these cadets efficient subalterns in the field, and training them how to detect the weak and strong points of a position on a battle-field of 1897, a similar question on the position occupied by James' army at the battle of Sedgemoor, and so clearly and graphically described by the present Commander-in-Chief in his "Life of Marlborough," would have done equally as well. But a cadet taught as advocated in this lecture would have been better able to gain marks in a question as to the strong and weak points of positions where modern firearms are used in 1897, for he would have learnt at least about one expressly chosen by a general, because it was better suited than was an alternative position for the full development of the power of the arms in use in 1870 by his troops; it was the position taken up by General von der Tann at Coulmiers, on the 9th November, 1870. As to advanced posts, he would not possess the antiquarian knowledge of the advantages and disadvantages of a La Haye Sainte in advance of a firing line in 1815. But he would show himself at home in this matter, at all events, as it stood in 1870, fifty-five years nearer his own time—because he would have learnt not only about St. Hubert and Champenoise, but also about the little hamlet of Les Cotelles on the battle-field of Beaune la Rolande—localities all in advance of a line armed with firearms comparatively little dissimilar from those of to-day.

Another question given to the Sandhurst veterans ran as follows:—"Q. 2. Criticise Napoleon's own movements and the disposition he made on the 17th June—the day after Ligny and Quatre Bras." (50 marks.) To this my cadet would have replied: "Being only a cadet, I find I cannot spot the mistakes made by the Aldershot generals at the field-days at Barossa and on Turf Hill, so my instructors do not ask me to criticise the operations of these officers. With regard to the general named in question 2, I should have been very happy to put down and give as my opinions those of our instructor, if he had told me what they were; but as he has not done so I cannot answer the question." May not the comment on this class of question be almost in Shakespeare's words:—

"Imperious Cæsar, dead and turned to clay
Might stop a hole to keep the winds away."

Or slightly paraphrasing another passage: "To what base uses may we come, Mr. Examiner Horatio. Why may not imagination trace the convolutions of the great brain of Napoleon, till we find it stopping the bunghole in the memory of a second-term cadet at the Royal Military College?"

Do not credit me in portraying thus this branch of instruction under the Department of Military Education, with which I have had the good fortune to be so long connected, with any such foolish desire as to merely make fun of the instruction, and to hold it up to ridicule. But, gentlemen, it is only two or three years ago that the Board of Visitors to the Royal Military College succeeded in re-introducing into that establishment a so-called study of military history, of which this examination paper is the most recent outcome; and I know that at the present moment efforts

are being made, in certain influential quarters, to induce the Army authorities and the Military Education Department to sanction an extension of this study on the same lines.

I have, therefore, no hesitation in saying, that, in my opinion, this method of utilising for the youngest soldiers of our Army the recorded military experiences of the past is out of date, and can only be regarded as obsolete, and in disaccord with that spirit of practical military teaching which is one of the most marked features of the age of military training in which we live.[1]

And now to the utilisation of experiences by the cadets when they become officers. We may consider these officers as bifurcating into two sets: one of officers who determine to throw study to the winds until any promotion examination begins to cloud their horizon; the other of officers who, after a good long spell of rest—it may be for two or three years or more, spent in the wholesome enjoyment of young life—pick up again the dropped threads of professional study. The case of each set of officers must be considered separately; to the former, the non-reading officers, I will first offer counsel.

I do not ask you, the non-reading officers, to study military history, of which occupation you are wont to speak with supreme contempt, as fit only for bookworms and feather-bed soldiers. I wish, however, to bring to your notice the existence of a vast mass of recorded military incidents, similar to those which would happen in any war of to-day or to-morrow; and showing you how soldiers have behaved and acted in situations precisely similar to those in which you will find yourselves on service in the field. They come before you, it is true, in most objectionable shape in the form of the horrid black marks at which you so much dislike to look; but this defect can hardly be got over. But suppose for a few moments that you were voluntarily to undertake the command of a fire brigade, liable to be called out for duty at any moment. Would you not, without delay, get hold of some of the old firemen, and ask them to tell you about putting out fires? And if no call on you was made for some little time, would you not as soon as possible read up the most recent reports by your predecessor on the outbreaks of fire and the mode in which they were extinguished? If you refused to avail yourself of these experiences, is it not probable that at the first outbreak of fire with which you had to deal you might altogether fail to extinguish the fire, or that in extinguishing it you would sacrifice the lives of two or three firemen, where, under an experienced commander, only one need have been lost?

So, as you may at any moment have to answer to the military battle-field call, and exercise that command which you voluntarily undertook when you accepted a commission, and as you will then find yourself in a similar responsible situation, is it not reasonable that you should, in order to do your work

[1] I have been informed that my remarks on this examination paper may read as somewhat like an attack on the examiner who set it. I disclaim any such intention. The questions were of the ordinary type, and were strictly orthodox.—L. A. H.

better and not to unnecessarily sacrifice your men's lives, take the trouble to learn from the recorded experiences of older soldiers how they acted in similar difficulties? Don't let false pride or false *amour-propre* lead you to think there is anything *infra dig.* in not trusting absolutely to, and relying implicitly and solely on the aid of the contents of your own skulls, however valuable those contents may be. There was once a man who suddenly had to lead an army on a campaign; but as soon as he found out what he had to do, he did not sit down and study military history, although I lately heard one of my friends say that he did. He knew that another leader had carried out a campaign over this same tract of country not so very long before, and therefore he at once asked the military authorities of his country to send him every available record of what his predecessor had done, so that he might draw on his experiences and profit by them. That man you may not think much of, because I have told you that the faults of his application of the principles of strategy are so transparent, that even cadets at Sandhurst are considered competent to expose them; but he was a bigger man than all those 350 budding young von Moltkes put together—he was Napoleon.

I fully admit that the experiences useful to you are not in all cases easy to obtain, but many lie close at hand. I only now ask you, do you assent to the proposition that they are of value to you as practical soldiers for increasing your worth and power as practical soldiers, and for enabling you to do your duty in the field? You are, I fear, in a dilemma: for if you deny it you lay yourself open to the suspicion that the price you would charge for yourselves, skulls and contents included, per pound in the open market is somewhat exorbitant; if you assent, the reasonable corollary is that you ought to do your best to get hold of these experiences, and the final result is that the salt is firmly placed upon your tails. With it there I bid you good-bye, and ask you peacefully to slumber during the rest of this lecture which, as it is about the study of military history, neither concerns nor interests you, though it may both concern and interest some of your brother officers.

Returning to the course to be taken by the officers willing to read, the immediate purpose before them is, it must be remembered, to prepare themselves for the work of to-day, that in which they will have to take part, the work they will have to carry out in the field. But they are also ambitious to rise in their profession, and they wish to learn more about it. A knowledge of the higher tactics and of strategy they desire to acquire. As regards the former, they will gain fresh knowledge by continuing to draw on the recorded experiences, and this they can do safely, guarded as they are by the truth already indelibly impressed on their minds that tactics depend for practical purposes on the arms in use.

As regards strategy, they, long ago, learnt what the principles of strategy are; what they want to learn is how to apply these principles to practice in the closing years of the nineteenth century. Now, any application of these principles to practice is regulated in the first instance by what may be called the military mechanical conditions existing at the time of this application. A general who is entrusted with the conduct of a

campaign is given for the purpose of carrying it out an instrument known as an army, and he is told that the instrument is to be worked among certain physical surroundings known as the theatre of war; the army and the theatre of war are the military mechanical conditions. The particular way in which he will conduct the campaign depends, therefore, on the nature of the particular instrument or army he has to use, and on the physical surroundings, the theatre of war, amidst which it is to be worked. The genius of the general shows itself, not in the selecting some particular application of the principles of strategy suited merely to the relative positions of the hostile forces, but in selecting that application which is best, not only with regard to these positions, but also which is best suited to the working of his instrument amidst certain surroundings. But although the instrument and the surroundings may each bear the same name for hundreds of years, *e.g.*, the French Army, the valley of the Danube; yet each varies in itself so much at different periods of history, that the mode of carrying out an operation at one time, *e.g.*, 1650 A.D., may be quite unsuitable at another time, *e.g.*, 1900 A.D. Consequently, before studying military problems of to-day involving strategy, the student must ascertain what is the particular army of to-day, the instrument in the hands of the general, and what the particular theatre of war in which the general has to work it is like. I will assume that the student selects the French Army as the instrument, and the region between the Rhine and Paris as the surroundings. He proceeds to ascertain what the French Army of 1897 is; and every detail of this tract of country in 1897 also. He may then select another instrument to put in the hands of a hostile general, say the German Army of 1897; and having learnt all about this instrument, he may, if he chose to do so, work out the operations involved in an advance of the Germans from the Rhine on Paris. But, being perhaps somewhat doubtful of his ability to deal satisfactorily with so big a problem, and remembering that of a similar campaign in 1814 a high authority has written, "So various are the lessons conveyed by this campaign, that the reader who has mastered it must be competent to investigate almost any problem which strategy can offer," he may, in order to get a line for the solution of the problem in 1897, draw on the recorded military experiences of the past for the example given him in 1814, by Napoleon, Blücher, and the other leaders in the campaign of that year. But he will not have examined these experiences to any extent before he will find that the instruments of 1814 differed radically from those of to-day and to-morrow in almost every respect, in composition and organisation, in their wants and needs, in the mode in which those wants and needs were met; he will find that the mobility of the armies in 1897 is almost lightning speed compared with those of 1814; he will find that leaders of armies, or of portions of armies, however far apart in 1897, are in close personal communication with each other and combine their movements with perfect ease; whereas in 1814, they were hours or days apart. If he turns to the surroundings, he will find the physical features such as hill ranges or large rivers, which were obstacles to progress in 1814, tunnelled through or bridged over so as to

cease to be obstacles at all; bad roads replaced by good ones, good ones increased in number, the methods of locomotion transformed. The world in 1814 seems to him so different from that of 1897, that he regards it for military operations of to-day, 1897, almost as prehistoric; and then, someone tells him of a campaign carried out not long ago in this same theatre of war, where, what I have denominated the mechanical conditions, the armies and the theatre of war, were almost identical with those of to-day. He draws forth this experience from the recently deposited stratum in which it lies. The label it bears at first checks him, for it runs "Made in Germany." He would prefer a home-made article, so he searches into the various underlying strata, but not a single home-made strategical experience subsequent to the prehistoric age can he find; so, at the risk of being thought to be deficient in patriotism and gone "German mad," he makes the best of a bad job. Needs must when the devil drives; the gentleman with the cloven hoof drives him to the Franco-German war of 1870, where he soon finds he is living among armies similar, almost identical, to those of to-day, and moving among surroundings, railways, telegraphs, roads, railway tunnels, viaducts, and chaussées, the same which meet him wherever he turns in France, in 1897. But does he find there any of the examples of strategy that he wants? I think he will find a few. Von der Tann at Coulmiers, von Werder on the Lisaine, von Goeben at St. Quentin, forced to form front to a flank under modern conditions, just as was Mack when facing Moreau under prehistoric conditions; Bazaine and Prince Frederick Charles at Vionville both forming front to a flank, as their forefathers are said to have done in old time at Jena; the advance on Le Mans from Chartres and Orleans is similar to that which the Archduke Charles opposed in the basin of the Danube; Gravelotte shows an army placing itself across its enemy's communications, as does Ulm, in 1805. The time-honoured and hackneyed salient and re-entering frontier of Moreau in 1800, is replaced by that of von Moltke in 1870.

Gentlemen, with which study ought the officer, in your opinion, to begin: that of the latest, 1870, or that of the earlier period, 1814? Remember, that he is reading and studying, not for mere personal interest, but to make himself a better soldier of to-day and to-morrow.

Let me make a personal question of the matter. No doubt the locomotive drivers of George Stephenson's day managed fairly to avoid railway smashes, and to keep tolerably good time with their trains. Gentlemen, if in six months' time, you all found yourselves in the Flying Dutchman, Scotchman, or Irishman, with Colonel Lonsdale Hale about to act as driver, what would your feelings be, and would there not be a rush for accident insurance tickets, if I, putting my head into each compartment in turn, informed its occupants that they need be under no alarm for their safety, for I had been studying railways and their working ever since we parted this evening, and, knowing the principles of their working to be "eternal," it had not seemed to me to be of much importance at which end of the recorded railway experiences of the past I began, so I had employed the six months' interval in reading all about the life and times of George Stephenson; that I had spent many hours in

the South Kensington Museum, where I had first mastered the driving of a locomotive built in 1812-13—the era of Moscow and Leipsic, by-the-bye—the first which ran with smooth wheels on smooth rails, and known as "Puffing Billy"; then continuing my studies strictly in chronological sequence, I had taken full notes on another locomotive there, called the "Rocket," which in a prize competition in 1829 gained the prize of £500, and ran at the express speed of twenty-nine miles an hour; but I found that both the "Rocket" and poor old "Puffing Billy" had been consigned to the bourne of mechanical fossils in 1862—two years, by-the-bye, before the appearance of the infantry breech-loader as the foundation of modern tactics for the next thirty years. I should then have to tell you that, owing to the intensity of my prehistoric studies, I had been unable to avail myself of repeated invitations of drives and talk given me by a London and North-Western driver since I had undertaken to drive this particular express; but that when I next came across him, possibly in a collision that night, I intend to learn how to drive trains under a system of signalling known, I believe, as the Block System, and to examine a queer-looking arrangement on this train, and called a vacuum brake, both of which are at present Double-Dutch to me; and I am resolved to do this in spite of a warning I have had to the contrary, to shut my eyes to both of them, because report says that they have been "made in Germany."

For practical soldiers, with no assured length of time for study before they may have to utilise in the field the experiences of the past, there is only one way to study and draw on these experiences. It is the way I have applied to one campaign in one theatre of war, and which is equally applicable to all. Read military history, read the applications of the principles of strategy, read the development of the art of war, draw on the recorded military experiences of the past—not, as children, we read our Pinnock or our Goldsmith forwards from Alfred the Great to Victoria the Greater, but backwards from Victoria the Greater to Alfred the Great. Read military history, its campaigns, its strategy, its battles, its tactics, backwards—not forwards.

But most dangerous would it be, if a student, possessing a knowledge of only the mechanical conditions of a campaign, the army and the theatre of war, accepted the examples of the leaders of the past as a guide for their own action in the future. There is yet to be sought out in any and every campaign a factor which is most influential in determining the mode in which any principle of strategy shall be applied, and even, perhaps, whether its application is practicable at all. That factor is the *moral*, actual and relative of the instruments, the opposing forces, the condition of the *personnel* of each; the characteristics, special and general, of led and leaders alike. Ignore this factor, and we miss the clue to the successes of the First Napoleon, to the disasters of the Third Napoleon, to the successes of Lee and Stonewall Jackson, to the disasters of Pope and McClellan. Ignore not only this factor, but also the mechanical conditions as well, and then strategy resembles a game of chess, only in all the theatres of war being as identical as are all chessboards; here the resemblance ceases, for all the war pieces, whether kings, queens, or pawns, are

of equal value, not merely in one, but in all campaigns; and those of 1897 A.D. are those of 1897 B.C. Ignore all these vital differences and distinctions; then if because we have read that in time past some great master of the art, by adopting a certain gambit speedily gave check to his adversary, we determine to play our game in the same way, it will not be due to good-strategy, but to luck and good fortune only, if we find that the move sanctioned by authority does not land us in a situation where checkmate to ourselves is the immediate and dire consequence.

It is the almost total neglect of the personal conditions, and the comparatively small notice taken of the mechanical conditions, that makes me object so strongly to the use of Hamley's "Operations of War" as a book for beginners. The human element enters into it hardly at all. The references to the nature of the Army, the instrument; to the surroundings, the theatre of war; and to the personal characteristics are very limited, so that the study of the campaigns becomes a mere monotonous pursuit of chessmen pieces all of the same value over chessboards; a deadly dull game of hide and seek with mere statuettes labelled Ney, Napoleon, Radetsky, Wellington, Archduke Charles, amidst a labyrinth of black lines, and a classically chosen and classically arranged large collection of the horrid black marks called words. If you doubt me, read Hamley's account of the campaign of Eckmühl. To anyone, who already really knows that campaign, the account may be interesting, intelligible, and for ought I know profitable; but for those who do not, it is but dry bread, I may almost say ships' biscuit, and, to my mind, as unnutritive and indigestible.

As regards officers quartered in India, it must be remembered that warfare in India has its own special characteristics; and the military history and the recorded military experiences of warfare in that country deal with a branch of the practice of the art of war vast in size and extending over near a century and a half of time. It would be well, therefore, for these officers to devote themselves to acquiring knowledge solely with regard to Indian warfare in the past, and not to turn to warfare outside India until they have thoroughly prepared themselves for the work before them in that province of the Empire. Work, however, backwards in time, and whilst thus working forget Waterloo; and to show my perfect impartiality, I say, forget Gravelotte also.

The main characteristic of our small irregular warfare is, that it varies not so much according to the dates of campaigns, as to the locality of each; and therefore a knowledge of how warfare has been conducted successfully in one locality, is no safe guide as to its proper conduct in another. The records are not very extensive, and an officer ordered to join a force about to carry on an operation in any of these expeditions will find plenty of time to study, during his voyage to the theatre of war, the recorded military experiences relating to wars previously carried on there. But let him here also read backwards.

The study of campaigns, to be profitable, is very laborious work, so laborious that only a few gifted soldiers—and I own I envy them—can master many of them. But there are few officers who by working hard

cannot master some one campaign. And the mastery, the complete mastery, of a single campaign supplies us with a touchstone, which will enable us to form a fair estimate of the practical value of the history of any campaign furnished to us by others. Knowing what one campaign really is, we know that there are, in connection with the application of strategical principles, certain points and matters with which every military historian, knowing his subject, must deal. If we find these matters ignored, or the points missed or either treated superficially, or as of no consequence, then we may put the book on one side, and rest assured that though our would-be teacher may not be the unpleasantly-voiced quadruped in the lion's skin, he certainly is but a mere, and, perhaps, but poorly-informed narrator, attempting to impose upon us, and only masquerading in the garb and mantle of the military historian; he is no teacher for us.

Grounded thoroughly in one campaign, and thus provided with the touchstone, officers who desire to learn yet more of the higher leading of war, may draw, with profit to themselves and with increase of their own professional capacity, on any recorded military experience of the past, no matter how deep down the stratum in which it lies buried in the deposits of the past; but let him, if ever tempted to pronounce judgments on the conduct of leaders, remember that whilst criticism of this kind is a very simple matter, within the reach of any charlatan, it is only when such criticism has been preceded by great personal labour in collecting facts, and by the exercise of sound judgment in sorting them out and weighing them, that the criticisms themselves are worth more than the ink with which they are written, the breath used for speaking them.

Gentlemen, I hope that I have succeeded in making tolerably clear to you the three main and cardinal principles which I advocate for the study of military history by the officers of the British Army. The first is that, primarily, that study should be purely utilitarian—that is, that it should be useful to the officer in the field; the second is, that it should be suited to the rank he holds, and to the work which lies immediately before him in the field; the third is, that the study should run chronologically backwards—not forwards. These three principles I submit for consideration and criticism.

And now, in conclusion, a few words to those officers who form the body of military instructors of the Army, whether professors, instructors, or D.A.A.G.'s for Instruction. Although myself retired from the Active List, I think I may, without any presumption, consider myself as still one of you; and as I am now in my thirty-sixth year of continuous work as an instructor in military art, I fear I am your *doyen*—I stand first on your list of seniority. Permit me, then, to offer you one result of that long experience.

To what extent the average British officer will study his profession, or whether he will study it at all, is, I think, determined to no small extent by how he regards us, how we regard him, and how, when for instructional purposes we come in contact with him, we put this study before him. I detest the names by which we are known—Professors, Instructors,

D.A.A.G.'s for Instruction—not because they designate a branch of work looked down upon by the Army at large, for that day is gone by; but the evil of it is that it makes teachers one caste, taught another; and it stands in the way of *camaraderie* and of the relation between the two classes being that which ought to exist. We must endeavour to make the officer understand that the sole difference between him and us lies in the fact that, somehow or other, certain knowledge of great value to soldiers on service in the field happens to be in our possession, but not in his; and this knowledge we are ready and desirous to share with him, so that he also may profit by it and have it ready for use in the field. But we must take especial pains to put before him this knowledge in its most practical shape and aspect; and, also, so far as we can, we must suit the physic not only to the wants of the patient, but also so far as possible to suit his tastes also. We shall have to admit to him that a certain amount of reading is necessary, but do not let us alarm him even by a glance at any fairly-stocked military library we may possess. But from it let us take and offer to him the lightest literature it contains, say, "The Badge of Courage," or some book christened with some light and not alarming title. The amount of valuable professional information and knowledge to be gathered from the lighter literature of war is great indeed. If there are in our possession a letter or two from one of our own comrades, telling us how perhaps only six weeks ago he, it may be a subaltern on piquet in Burmah, had repulsed an attack on the outposts, let us give him that to read and study to his profit. It is a recorded military experience of the past, it is military history as much as is Napier, Duquet, or von der Goltz. To find books of this kind for officers who read French or German is easy enough. I name one only, von Tanera's "Recollections of a Galloper." But for officers not linguists there is a sad deficiency; and were I some ten years younger I should be tempted to initiate the supply of works to make it good. But still they exist, sometimes as translations, and among them I name as an instance the chatty, cheery letters of Kraft on infantry and artillery.

This kind of reading will act as a stimulant, as a tonic to the literary appetite of the non-reading officers, and by degrees they may be led on to higher flights; and, on the strength of having found the first morsels of horrid black marks really palatable, they will, after having dallied with the *entrées* on the table of military history determine, perhaps, to remain there for the next course, and will go in boldly for a slice of the first joint, even if it be a campaign of the past, and no matter how tough or difficult to digest it may appear to be from outside inspection. And to afford them encouragement, let us on our side endeavour to throw life into the subject; let us clothe with flesh, blood, muscles, and nerves the dry bones of strategy, so that they cease their appalling rattle; let us vivify the literary prescriptions of the drill-books with the inspiring recorded experiences of our soldier forefathers of the past. Finally, for the ideas of teachers and taught, teaching and learning, let us substitute that of brother officers giving to and receiving from each other useful practical knowledge; and in no branch of our work is this more easy than in that

which I have brought before you to-day, "The Professional Study of Military History."

Lieut.-Colonel G. F. R. HENDERSON (York and Lancashire Regiment, Professor of Military Art and History, Staff College):—There are a few points in this interesting lecture on which I should like to make a few remarks, not so much by way of objection, as of representing the other side of the question—a side which Colonel Hale has of course considered, but has not had time to touch upon. The first of these points has reference to the study of strategy. Colonel Hale has told us that the principles of strategy are few in number, and that they can be taught by a series of familiar illustrations. But he has also suggested that their application is by no means so easy. I need hardly say, in common, I am sure, with the rest of the audience, that I thoroughly agree with him. You might tell a boy that the great secret of success in cricket is to play with a straight bat; but I do not think the mere knowledge of that principle would enable him to make a hundred runs at Lord's. To compass that achievement he must see good men play and have plenty of practice. The same with strategy. A mere acquaintance with principles is insufficient. I may presume, without affectation, that I have more experience of teaching strategy than any officer here present, except Colonel Hale himself, and the outcome of my experience is that officers may know the principles of strategy by heart, and yet when it comes to application, that is when they are asked to work out a plan of operations for the attack or defence of a certain territory, they very often fail altogether. Directly they are face to face with a concrete situation they ignore principles altogether, and put on one side every single rule that has ever been laid down on the art of war. The reason is that strategy, to my mind, is a far more difficult art to master than tactics, simple as it may appear; and it is therefore of the very greatest importance that it should be studied in the right way. It certainly is absolutely essential that students of strategy—and these include all officers who aspire to command in the field—should thoroughly comprehend the changes which have been brought about by steam and the telegraph; while the part played by physical obstacles, by roads, rivers, and bridges, can never be underrated. But at the same time, it is to be remembered that means of movement and communication are not the only factors in a strategical problem. The "eternal principles," at which Colonel Hale seems rather to scoff, have still to be applied. I may quote General Sherman, who had a great deal to do with railways and telegraphs. He brought his manœuvres to a successful conclusion principally by the effective use he made of modern inventions; and yet he tells us in his Memoirs that the principles of strategy on which he acted in his march through Georgia were exactly the same as those which were applied by Hannibal. To apply these principles correctly something more is needed than the correct manipulation of the railways and the telegraph. The great aim of strategy must always be the same, *i.e.*, to concentrate the superior force, moral and physical, on the field of battle, and to do this a general must out-manœuvre, outwit, and deceive his antagonist, and thus bring his full strength against a weak and vulnerable point. I would ask the lecturer, with all due deference to his thirty-six years of instruction—years for which the British Army has good reason to thank him—if he is quite certain that the campaign of 1870 is the best guide for British—not German—officers as to how this may be done. I do not wish for a moment to assert that the campaign is not exceedingly instructive; but von Moltke is not the only master of the art of war. Even his most enthusiastic admirers do not rank him as greater than Wellington, than Napoleon, or than Lee, and the art of out-manœuvring, outwitting, and deceiving the enemy is not a mere matter of mechanical means. In fact, I cannot quite see that in the campaign of 1870, from the time the concentration of the German Army was effected up to the battle of Sedan, that the railways and the telegraph, improved roads and more numerous bridges, played a conspicuously important part. The railways certainly

facilitated to some degree, but to some degree only, the supply of the enormous hosts which crossed the Rhine; and the telegraph appears to have reduced the risk which was considered by Napoleon, Wellington, and Lee, so great a danger of dispersion. But railways and telegraphs did not affect in any marked degree, so far as I can see, the application of strategical principles. The manœuvres before Gravelotte, for instance, of the 1st and 2nd Armies under Moltke himself were Napoleonic in conception, and executed in exactly the same manner, and certainly (notwithstanding the lightning mobility that Colonel Hale has referred to) with no greater rapidity than Napoleon would have executed them; and the same may be said of the manœuvres before Sedan. In fact, the French were outwitted and out-manœuvred, not because the Germans had railways and the telegraph, but because von Moltke used his cavalry as did Napoleon, because his troops could march like Napoleon's, because, like Napoleon's, they subsisted to a great degree on the country; and, lastly, and this is to the point, because Moltke had learnt to apply strategical principles from the campaigns of Napoleon and of Frederick. Moreover, the 1870 campaign, as a guide to the application of strategical principles, is always open to the objection that von Moltke's manœuvres, like those of the other German generals, could hardly fail to be successful against an enemy so inferior in numbers, so indifferently organised, and so deplorably commanded as the French. I will cite the example of Stonewall Jackson, who was undoubtedly one of the most brilliant of modern soldiers and strategists. He commanded in a theatre of war which possessed both railways and the telegraph, and of both these auxiliaries he made most effective use; but he always carried Napoleon's maxims in his haversack. Colonel Hale has told us that, with the telegraph, Armies that are dispersed or separated can now combine together with absolute certainty. I had yesterday put into my hands a paper showing the number of times in which, during the 1870 campaign, the telegraph had proved a most uncertain instrument of war. Even at the very beginning, on the night before the first battle, the telegraph broke down altogether. As Colonel Hale will remember, there was only a distance of sixty miles between the headquarters of the German Army and the headquarters of the 1st Army, yet that most important telegram took twenty-four hours to traverse those sixty miles! In my own opinion the war of 1870-71 is not the best suited for the study of the influence of railways and the telegraph. For English soldiers it seems that Moltke's campaigns, as regards their auxiliaries, are far less useful than those of the Civil War in America, or than the Egyptian campaign of 1882; and so far as regards the application of strategical principles, the campaigns of Wellington have, I think, a very special value. In the American, the Egyptian, and the Peninsular campaigns the sea-power played a most important part, and a knowledge of how strategy is affected by the sea-power is likely to be of more practical benefit to English commanders than a study of railways and the telegraph. Again, if, as the lecturer says, an officer studies military history in order to prepare himself for the work of to-day or to-morrow, it may be questioned whether it would not be better, if his time is limited, to confine his attention to campaigns which have been fought on theatres of war of the same character as those on which he may have to fight himself. Military operations in South Africa, or in the outlying dependencies of our own or other people's Empires, have very little in common with the campaign of 1870; but they have very much in common with the campaigns in America, or with Wellington's campaigns in Spain and Portugal. And there are yet other reasons why Wellington's campaigns have a special value. Strategy is not merely a question of out-manœuvring the enemy, especially English strategy. In the first place, English strategy has its political side, for the soldier is never independent of the Government; and it has its diplomatic side, for we are often assisted by allies; and, above all, organisation and administrative services have often to be improvised on the spot, with insufficient means, inexperienced officials, and auxiliary troops. Within the last twelve months four comparatively

junior officers have found themselves in independent commands of important expeditions, and I am perfectly certain that if either Lieut.-Colonel Plumer, or Lieut.-Colonel Alderson, or Lieut.-Colonel Hamilton, or Major Arnold were asked, they would say that a knowledge of the rough-and-ready methods of the Peninsula or of America would have been far more useful to them than the most intimate acquaintance with the operations of von Moltke. I may add that I can endorse to a very great extent the lecturer's criticism on the "Operations of War," as a text-book of strategy. It was for many years the sole text-book for the Staff College entrance examination; but it was discontinued, I think, in 1894. Since then officers competing have had to rely on their knowledge and observation; and the papers set, so far as I can judge, have aimed rather at discovering the measure of their capacity for hard thinking, and of their ability to apply principles to concrete cases, than the mere strength and accuracy of their memory. This has been a move in the right direction, and the results which appear in the Staff College course have been most marked.

Lieut.-Colonel SISSON C. PRATT (*p.s.c.*, retired pay, R.A.):—I cordially endorse the views laid down by the lecturer, and the Army at large should thank him for pinning us down to the utilitarian aspect of military studies. To-day, however, I merely want to refer to one point which the lecturer has raised, that is, the instruction in military history at Sandhurst. I venture to put in a plan for the Waterloo campaign. Colonel Hale has referred to the necessity of illustrating the minor operations of war, advance posts, artillery positions, etc., by means of the most recent incidents in the 1870 and subsequent campaigns. He points out that this should be done in the course of military history; but I wish to show that these matters are already dealt with at Sandhurst. They have a most elaborate course of tactics; and I submit that all these incidents in modern warfare—and I think they should be the most modern incidents—must rightly be used as illustrations in a tactical course. They have also at Sandhurst an administrative course, in which the cadets are informed of the modern organisation and supply of Armies. These are points which Colonel Hale has alluded to as being of practical utility in the study of military history, and a certain amount of his arguments have been swept away by the teaching of these subjects in separate courses at the Military College. With what object was the additional study instituted? I am not prepared to discuss whether it was a good or a bad measure, but there it is; and we must look at the military history of a campaign as simply the frame-work into which the several incidents of modern warfare, illustrated in the tactical lectures may fit. It also gives the cadets an idea how a campaign as a whole is conducted. Above all, in dealing with young officers or cadets, the main object should be to interest them in the profession they are going to take up. To put it in a concrete form I would make a suggestion. Colonel Hale is one of the most admirable military lecturers that we have had; and if anybody can rivet the attention of an audience he will do so. Now, I would ask him to imagine himself in this hall faced by a hundred Sandhurst cadets, while lecturing on the Waterloo campaign. I venture to say that his remarks would be followed with the most vivid attention, and that the dropping of a pin might be heard in the room. At the close of the lecture, too, the cadets would come to him asking questions, and showing their great interest in the subject. The opening of the 1870 campaign, say up to the battle of Sedan, would also rivet the attention of the students. But let us go a little further, and take Colonel Hale's favourite campaigns on the Loire or the Lisaine, or in the north of France. I venture to say that even with a lecturer of his great ability a large portion of the audience, after ten minutes, would be in a comatose condition.[1] In

[1] This prediction is directly contrary to my personal experience, for I have managed to keep two large public school audiences wide-awake through the whole of "Coulmiers." The battles of the second period of the Franco-German war teem with incidents of interest to young soldiers, whilst Beaune-la-Rolande is simply dramatic.—L. A. H.

a Military College we ought to have campaigns which are attractive to young students; and I ask, Can there be one which would appeal to a cadet more than the Waterloo campaign? Are we to send young officers into the Army to whom Napoleon and Wellington are mere names? Are we to send lads into the Navy to whom Trafalgar and Nelson have no meaning? I think Colonel Hale is rather unfair in suggesting that young officers cannot derive benefit from the older campaigns. To my mind, the diagram of the ten cadets and the seven cadets on the blackboard is really no more interesting than the multiplication table. I think if you can show a young officer how these same principles are worked out by large Armies in the field, they will be much more impressed on his mind than by drawing diagrams on the blackboard. Then, with regard to tactics, surely any good lecturer can give valuable information from the Waterloo campaign. It is not a mere question of distances. A great deal can be taught by way of contrast. Let a lecturer describe the battle of Waterloo, and then show the cadets how the battle would have been fought under modern conditions. Let him describe a modern battle, and then refer back to Waterloo, and contrast the methods of fighting. This method of contrast is very taking to young students. You will remember that with the old temperance lecturers, one of the most vivid ways of bringing the subject to the attention of an audience was to bring forward "a terrible example," and exhibit him on the platform. I agree with Colonel Hale that military instruction should, as far as possible, be of the most modern type. I would not go back to the older campaigns of Napoleon, because you cannot sufficiently interest the students in them. Colonel Hale has given us an admirable and eloquent lecture; and the object of it apparently was to attack a little bantling at the Royal Military College of some eighteen months' standing. There is a big brother, within a mile, at the Staff College. Why, then, in taking the subject of military history did he not give us his ideas as to the course which has been long established at the Staff College?

Major C. B. MAYNE, R.E.:—The point of view from which I wish to speak is the cadet stage of our Service, and also of a class of officer that Colonel Hale has not mentioned—the careless reading officer. On reading this lecture, I threw myself back to my academy days, where we had a very brilliant lecturer who used to carry us away with his accounts of various campaigns. He gave us the Waterloo campaign as an illustration of older ideas and tactics, but he also gave us some account of the Franco-German war. When I left the Royal Military Academy it was with rather large views for a cadet (indeed one rather imagined oneself as capable of leading large units) until I came to Chatham, where I had the good fortune to come under Colonel Hale's instruction. He gave us the details of companies and battalions, and I at once felt that that was the instruction I really wanted at the academy. I remember Colonel Hale telling a story of an officer who went to the Zulu campaign, and who found that the system of outposts taught by text-books was very different from the system used out there. That also was the first thing that struck me in going to the Afghan campaign, where there was a totally different state of affairs from what one had learnt in regard to large European campaigns. It was afterwards my fortune to be instructor in military subjects for seven years at the Royal Military College in Canada, where I was given a free hand to arrange my course. I had the cadets for three years, but for only two hours a week, during eight months in the year. The course I established for the first year was what Colonel Hale has referred to as the knowledge of the arms of the Service, upon which all tactical operations depend. I wished the young fellows to start with a knowledge of the actual facts connected with the various arms of the Service, as the very elements of their work. The second year I carried them on further in tactical work, in order to make them understand the *rôle* they would have to play in battle when serving as officers belonging to any special arm. The third term I taught them the elements of war administration, such as lines of communications, etc. I also gave four lectures on

the elementary ideas of strategy, so that when the cadets read the history of a campaign they might understand it, although they might not ever have to apply the knowledge themselves. With regard to the careless reader, I think that some may misunderstand the suggestions offered by Colonel Hale for the cadets at Sandhurst. In these suggestions it seems to me from the diagrams before us that he has dealt almost entirely with the certain questions of strategy. So much depends on moral questions and the various powers and capabilities of different commanders, and even of the troops, that I think these diagrams *per se* are of little value. They assume that all the seven cadets and the ten cadets are of equal value, that the distances are equally easy to traverse, and that there is nothing intervening that would make it more difficult for one party to cross over them than another. In real war those parties represent units of a totally different value. The distances are no real guide, because there may be obstacles which may impede the movement of one party more than the other. Colonel Hale has himself told us that the cadet would leave Sandhurst "initiated into the art of war in the manner I have described. The cadet leaves Sandhurst thoroughly prepared for his work as a company officer, and with the theories of war secured in his memory." Now it seems to me that those diagrams do not give him any idea at all of his duties as a company commander leading men in the field. I am sure Colonel Hale would repudiate that construction, but still the words are there, and a careless reader might take advantage of them and quote them against him. To me the power of the various arms of the Service is the principal thing for cadets to learn, and in the examples that are given them to illustrate these things they should be told that all strategy and tactics depend largely on human judgment. Even in reading books like Hamley's "Operations of War," one is apt to look upon strategy as a geometrical art. Really strategy and tactics—however simple they may appear in the pretty diagrams to be found in various books—when you come into the field they are largely matters of human judgment in certain circumstances and environments. They are not matters of geometrical relationship such as could be expressed by diagrams on paper. As to modern mechanical inventions, they do nothing more than offer facilities for action by the use that is made of them by human judgment. The difference between great leaders and bad leaders is the good or bad use of their judgment in regard to these things. Colonel Hale tells us that the study of military history should be utilitarian. But I think it should also be suited to the rank that the officer holds. The cadet on leaving Sandhurst should certainly know the very elements of our profession, and the complaint I would make in regard to our military educational system is the gap that exists between the Sandhurst cadet and the officer at the Staff College. The Sandhurst cadet when he becomes an officer has not any real opportunities for the further study of the various branches of his profession until he goes to the Staff College. The various D.A.A. Generals for Instruction are chiefly employed in helping officers to pass promotion exams only. This serious gap between Sandhurst and the Staff College is, to my mind, one of the evils of our system. In conclusion, I should like to take exception to the definition of the word "study" which Colonel Hale has given us, namely, "The utilising by soldiers the recorded military experiences of the past." I should prefer to define it as, "The personal appropriation by soldiers of the recorded experience of the past, for the purpose of utilising it in the future." The mere study of experiences is not the same as their utilisation. What is wanted is the personal appropriation of those experiences in order to enable the soldier to opportunely utilise them at some future period.

T. M. MAGUIRE, M.A., LL.D., Barrister-at-Law:—I certainly would not have dared to intrude myself upon the audience so soon after having occupied so long a time last week, were it not that Colonel Hale personally asked me to say a few words. I am sorry that these words will consist, in the main, of disagreement with Colonel Hale from beginning to end. But although that is so, I desire to begin by saying that I entirely appreciate,

as other gentlemen do, the services of Colonel Hale; and I am willing to admit that I am, in many respects, his disciple and follower. But I object, in the first place, to the change in the title of the lecture. If Colonel Hale had asked me to come down with a prepared speech on the subject, I should have found when I came into the hall that the speech would not have suited the occasion. The title is, "The Professional Study of Military History," but it has been changed into this, "The Utilisation of Military History for Immediate Tactical Purposes by Young Boys, and for Strategical Purposes by Generals"; but that is another thing altogether. I find that Colonel Hale, in the course of his lecture, confused three distinct things. What is generally known as strategy or military history? How do we distinguish strategy or military history? In colleges and books it is generally regarded as quite a distinct thing, not in its essence, but as a subject of study—quite a distinct class of study from tactics. I can quite understand that Colonel Hale might wish to alter that. He might teach that strategy and tactics are so closely connected, that we cannot tell where one ends and the other begins. He discriminates between military history and strategy or tactics. The gallant Colonel pointed that out also. We have classes for strategy and military history; we have classes for tactics taught by different people; and we have classes for administration and law, with the details and organisation of Armies taught by other instructors; whereas Colonel Hale wishes to mix up in one lecture the whole three —strategy, tactics, and the composition of the corps. Therefore his lecture is not one about military history as it is generally understood, but a lecture about three things that are different according to common usage. That, I think, is to some extent a flaw in the lecture, and tends to confuse people who may have intended to prepare speeches on the subject. Coming to the lecture itself, the gallant Colonel referred to the pictures on the board. I see these "in my mind's eye, Horatio," every day in my life, and on boards too. I think the gallant Colonel means by the first picture what Hamley would call interposing between parts of a divided front. He ridiculed the chessboard system of Hamley. I put it to the gallant Colonel if it would not be as well to take the campaign of Napoleon—one of the best campaigns in 1796; Napoleon being A, B being Colli, and C being the Austrian Beaulieu—if a statement of that would not have been just as well as the letters A, B, and C, and if it would not interest people more. Also, in the case of convergent lines, the first German Army in Bohemia, in 1866, being at B, and the second German Army being at C, and Benedek being at A, would not that be just as good an illustration as the alphabetical letters of the gallant Colonel? I think I recognised in drawing No. 2 on the board my old friend "forming front and flank." Now, suppose instead of A and B we put in Lord Wellington and Marshal Marmont; would not the ordinary Sandhurst boy like it just as much? I know when I was a boy I would have liked it a great deal more. Then, taking No. 3—that is our very old friend—interposing between an enemy and his base. I think Colonel Hale will admit that it is so.

Colonel HALE:—I will not commit myself.

Dr. MAGUIRE:—Colonel Hale is a wise man, and he will probably not commit himself to anything; but I give him a chance of attacking me. This is interposing, as far as I can see, between the enemy and his base: very well-fed belligerents interposing between badly-arranged belligerents. Would it not be better to put Napoleon coming in between the Austrian General Melas at Marengo, or Napoleon coming down to the Danube in 1805? It would not take a bit longer. It would only take the same length of time as the gallant Colonel took in referring to those three things. Mine would be a living illustration, though the people were dead, and it would be an interesting illustration; whereas his is a mere chessboard or mathematical illustration of military history, if I may use the phrase. Now we come to the campaign of 1815, and the conduct of that examiner at Sandhurst who ventured to ask young English gentlemen what was going on in Belgium in a crisis for their race and name on the 17th June, 1815. Why should

he not ask them that? There is not a tinker or tailor, or soldier or sailor, in Great Britain that ought not to know all about it, let alone the Sandhurst or Woolwich cadets. It is part of the heritage of the nation at large, and they are there to be educated to be proud of themselves, as well as to become tacticians, organisers, and administrators. Surely Colonel Hale will admit that the examiner merely wanted to illustrate these points. Why was Blücher at Waterloo? Why was Grouchy not at Waterloo? That is the meaning of asking what occurred on the 17th of June. I will now come to Hamley. Undoubtedly with the present state of military education, and education at large among our people of all classes, Hamley's was a hard book. Why was it a hard book? Because gentlemen coming from public schools and going to Sandhurst and Woolwich had not the rudiments of modern history in their minds. Every French and German gentleman of the same class, and every Russian and United States gentleman of the same class, is familiar with the ordinary course of European history. There are little manuals published abroad and used abroad—quite convenient books—and I am sure the gallant Colonel will admit that any fair knowledge preliminary to the study of Hamley and of modern European history would enable one to follow the campaign of Eckmühl with ease. I used to refer gentlemen to certain pages of Alison. If they read certain pages of Alison and then went to Hamley, Hamley became to them at least as interesting as "The Adventures of Dr. Nikola," or "The Sorrows of Satan." Now, the gallant Colonel says that this teaching of history from the past to the present, instead of from the present back to the past, is obsolete. He says, "Begin now and go backwards; any other plan is obsolete." Would the gallant Colonel mind telling me where it is obsolete? It is certainly not obsolete in England, because he says it is going on, and he complains of it going on. Is it obsolete in France? It is in vogue in France, and it is the method adopted in Kraft's book on strategy, 1859 and 1870; it is the method adopted by Rustow and Vial. Turning from books to schools—to his beloved German—why does not the gallant Colonel adopt his system? Colonel Hale says that he prefers the old system that Napoleon preferred; but Napoleon did not begin by studying the operations of Frederick the Great: he began by being commended heartily by his instructors for understanding the campaign of the people mentioned in Plutarch's Lives as a cadet. He was a most diligent student of military history all round; and when he became an officer, he did as Colonel Lonsdale Hale says—he sent for the most recent illustration of operations, as in Italy in 1743, or by Prince Eugène before he went there in 1700, before going himself into action in 1796. What is the course in Germany as arranged for the German War Academy no longer ago than 1895? There are two classes (this, according to the Colonel, is obsolete). This is the newest recommendation of the German Army with regard to military history: –

"A *thorough knowledge of history* forms an essential part of a general education, and is in many respects of the greatest use to every officer in his profession. Four hours the week will therefore be allotted in the first and second class to history lectures, and these ought to form the foundation of this subject, which will be *obligatory*. In the first class the lectures treat of the period 1500 to 1789, viz.: (1) A summary of the development of Europe as far as the Reformation; (2) the history of the revival of learning and the Italian Renaissance; (3) The history of the Reformation in Germany with an outline of the constitution of the Empire and the social status of the different classes. The Reformation in England, France, Sweden, the Netherlands; (4) the Thirty Years' War, the English Revolution, a French history to about 1673, the revival of history, and literature, and philosophy; (5) the detailed history of the Great Elector, the development of Eastern Europe in connection with Prussian history as well as the change wrought in the political system of Western Europe through *the Spanish Succession* (*i.e.*, Marlborough); (6) *the time of Frederick the Great*, an occasional explanation of his wars and

battles, and a continuous description of the whole intellectual bent of the 18th century, literature, philosophy, and legislation; (7) Catherine II., and the first and second partition of Poland. In Class II. history since 1789, viz.: (1) the development of *England as a colonial Power*, the *American War of Independence*, the contemporary state of France, an explicit description of the French Revolution; (2) *Napoleon's career till 1812*, Alexander of Russia; (3) the material and intellectual state of Germany, especially of Prussia, the Stein-Hardenberg legislation, Schleiermacher, Fichte, Schelling, Hegel; (4) the War of Liberation, the Vienna Congress; (5) European policy, the literature of the Restoration; (6) the intellectual life of Germany in State and Church as far as 1848, the demands *of the English people for reform;* (7) the national bent of the people of Europe and the Revolution of 1848; (8) Napoleon III. and the War in the East (*i.e.*, Crimean War); (9) German history from 1864-71, constitution of the German Empire, the economical, socialistic, and communistic movements. Close consideration is hereby to be given to Prussian history in this sense—how the Brandenburg-Prussian State has, through the genius of its Princes and through the earnest work of its people, entered firmly with ever-increasing importance into the rank of great Powers. This should be clearly taught."

These few suggestions I commend to the lecturer, not because I am not thankful to Colonel Hale, but because he asked me to criticise his lecture; and these are a few criticisms to which, before sitting down, I will direct his attention.

Lieut.-Colonel J. A. FERGUSSON (*p.s.c.*, Professor of Tactics and Law, Royal Military College, Sandhurst):—Colonel Hale was a professor at the Staff College when I was a student, and I assure him that the attitude of my mind towards him is the same now as it was then, so that I desire to speak with the utmost deference to him. He has invited me to join in the discussion, and I therefore ask him to allow me to make a few criticisms on what he has said. In the first place, I join issue with him as to the value of the old campaigns, and I will read one of Napoleon's Maxims in support of my opinion. He says:—"Read and re-read the campaigns of Alexander, Hannibal, Cæsar, Gustavus, Turenne, Eugène, and Frederick; there is the only means of your becoming a great captain, and acquiring the secrets of the art of war. Your genius enlightened by this study will make you reject the maxims opposed to those of these great men." Now I assure you we do not under-value the Franco-German war. At Sandhurst, in every lecture throughout the whole course of tactics, we borrow our illustrations from the war of 1870-71. If we want to talk about wood-fighting, we go to Wörth and discuss the attack on the Niederwald. If we want to speak of the attack and defence of villages, we go to Noisseville and Neuilly; and so on throughout the course of tactics. We cannot, therefore, be charged with neglecting the lessons of the Franco-German war. But when the study of military history was added to our course at Sandhurst, we had to think (with the very limited time at our disposal) what were the best campaigns to select. In the old days there was a Professor of Military History, with an assistant who did nothing else but teach that subject. I am responsible for the work of the tactical branch of the Royal Military College just now, and we have to teach in one-third of the time allotted to cadets not only the whole of minor tactics, but military law and military administration, including a thorough knowledge of the soldier's accounts. The one object that we set before us is to turn out the cadet a good regimental officer; but, added to this work, there is also a musketry course, in which we give both practical and theoretical musketry instruction. You see, therefore, the short time we have at our disposal for this great subject. I am not ashamed to say that yesterday I lectured on the battle of Waterloo. In our choice we selected the greatest battle of Wellington, and the greatest battle of von Moltke. During their second term the cadets have four lectures upon the campaign of Waterloo. During their last term the cadets have some lectures on

the battle of Gravelotte, with an outline of the incidents leading up to it, in order to make it intelligible. Also, when time permits, they have lectures on the Crimea, but not for examination purposes. It is not my business to criticise the decision of the authorities. We do as we are told. We are told to teach military history, and we do the best we can in the time. Some of us might, perhaps, prefer to have popular lectures given on military history at the Royal Military College without an examination upon them. We have, however, no reason to complain of the want of interest taken by the cadets. Although we do not boast the charm of the present lecturer, and have not got his rhetorical skill, still cadets do listen with the deepest interest to the lectures they hear. And it is not only to teach tactics and strategy that the little military history we teach is of value. What we aim at is to secure that the cadets should be interested in the study of military history, and should follow it up when they join the Service. But I am prepared to defend the study of the campaign of Waterloo and the battle of Waterloo. After all, we do not go much into strategy. The first example, however, which has been put on the board by our lecturer, is illustrated in the campaign of Waterloo. If you put N for A, W for B, and B for C, it is pretty much what happened in that campaign. I quite agree with Dr. Maguire that it would be much more interesting to study examples from actual history than the very bald examples on the board. Surely, from the battle of Waterloo many tactical lessons may be learnt. If I had to select a battle illustrating the *desiderata* of a defensive position, I do not know that I could go to a better instance than Waterloo. There is first of all a gentle slope to the front and a clear view and field for fire; perfect communications throughout; the slope to the rear covering the cavalry and covering the reserves; the line of communication perpendicular to the front, and so on. Dozens of illustrations of tactics, I think, may be obtained from the battle of Waterloo.[1] But I plead for a study of Wellington's campaigns on other grounds. I think it would be a sad pity that it should go forth from here to the world that an English lad ought not to study Napier's "Peninsular War." Surely, the study of the brave deeds of our countrymen of old stimulates emulation, fires the young officer, and instils into him something of an ambition to follow the example which has been set him in bygone days.

Captain W. H. JAMES (*p.s.c.*, late R.E.):—I think that Colonel Hale's lecture has been an exceedingly valuable one; but he will forgive me for saying that I think if he had let himself go he would have made it still more valuable. I suppose that the caution which is born of the study of military operations has prevented him from giving vent to his feelings in his lecture this afternoon. I perfectly agree with him on one point, which is, that we should begin our studies rather from the later campaigns than from the earlier ones. If I am to take an individual, and show him the course which would be best to train him as a General, I should say he ought to read everything; but, unfortunately, time does not allow that; and if you seek to instruct men, whether they be cadets or whether they be officers, in the art of war, you must necessarily limit your course for the purposes of illustration. Now, there is one great reason why it is better to go to the newer campaigns rather than to the old, and that is the reason which I think Colonel Hale extremely well expressed in the phrase which he used in his lecture—"the mechanical conditions of war." The mechanical conditions of war change very much. To study the old wars for strategical purposes, and to deduce from them strategy for modern use, would, in my opinion, be extremely fallacious. It would be very easy to multiply examples. Take the campaign of 1796 in Germany; one great reason why the Archduke was successful in that was that he turned away from the front of Moreau and went against Jourdan. Moreau was himself ignorant for several days of what had occurred. It is difficult to believe that if modern conditions had obtained, if the ubiquitous

[1] Where could you find a better example of what a cavalry charge ought to be—sudden, swift, and timely—than that of Somerset's and Ponsonby's brigades? —J. A. F.

newspaper had been in existence, if the still more ubiquitous newspaper correspondent had been attached to either Army, something would not have leaked out which would have given Moreau an inkling of what was going to occur. Again, take the campaign of Marengo. A campaign like that would be an absolute impossibility under modern conditions. Under no circumstances is it possible to conceive that Napoleon could have got together the so-called "Army of the Reserve," and that he could have led that Army across the Alps and come down like an avalanche on the unprepared Austrian commander, who was in absolute ignorance of his great adversary's movements. Such action would be absolutely impossible nowadays. The news would have got round, perhaps through a circuitous route; but it would have reached Alessandria, and Melas would have known who was against him, and whence he was coming. This being the case, it is far better to go backwards. I do not in the least degree object to the study of these old campaigns; all knowledge is useful, and the study of the campaigns of Napoleon will always remain masterpieces for those to study who have the time to do so. But if the time is limited, they had better take up more modern wars; because until they understand modern methods, they are not in a position to deduce proper lessons from former campaigns. There is another reason why it is well to go to modern campaigns rather than to more ancient times, and that is, that we know so much more about them. A man whom I look upon, and who is looked upon in Germany—though I believe one or two obtuse Englishmen do not agree with me—as one of the greatest German military writers, the late Prince Hohenlohe-Ingelfingen, gives an amusing description how, when he was at the Kriegs-Akademie at Berlin, he was in the habit of criticising the movements of great generals, of saying that Napoleon was stupid in one direction and Frederick in another; but he justly remarked that that is an easy sort of criticism, and that unless you can put yourself in the actual position in which a great commander was, unless you know all the facts which determined his conduct, you had better leave the criticism alone. That is the reason why modern wars are much better studied than ancient ones. Of course, I know that if you go to the pages of the German official account, you will not find these things recorded. For example, with regard to the orders of Prince Frederick Charles before the last day of fighting round Le Mans. The first set of orders were prepared, but never issued, as in the meantime, information came in that the Xth Corps had entered the town. He had prepared for a situation of doubt, a situation of what might have been disaster. He had prepared those orders on what he knew; but information came in which totally changed his views of the situation, and fresh orders were issued. There is no record of that kind in any of the old campaigns. You do not get what the French call the *vie intime* of military life in the old records. Then contrast the campaign of 1806, as given by Sir Edward Hamley, and as given in the fuller treatises of Foucart and Lettow-Vorbeck. There you have the words of two modern first-rate military writers, putting before you the thousand and one different factors which went to determine the situation from day to day. I do not know of any ancient war with regard to which you have such information available if you wish to read about it. That, as I have said, is one great reason why, to my thinking, in military study we should begin with that about which we know most, and about which we can get the greatest information. One good example of the value of the study of military history in all its intimate details, is the contrast between the conduct of the Prussian organisers and leaders in the war of 1866 and in the war of 1870. 1866 was the "prentice hand" of these great men, when they learned war by experience, and afterwards knew what alterations were required. They changed their views in the use of artillery, in the use of cavalry, and the way in which they formed advance guards, and so on. Again, they improved their system of supply. That was the result of what they did in 1866, and immediately after 1870 you see the same process going on. They again set to work, not resting idly on their laurels, to see what lessons were taught by

the war, so as to improve and bring up the Army to the highest possible pitch of perfection. We sometimes hear the foolish remark that these things are "made in Germany." Fortunately for us they are so. They are made in Germany because we have not had war brought home to us in the way that the Germans have had it brought home to them; and, for my part, I only hope that all the lessons of war will be made in Germany, or Belgium, or France, or anywhere else except in our own country. There is one thing I am fully convinced of, that is, the value of the study of European war. It is by no means sure that at the end of this century we may not be engaged in a European war; and as long as there is that possibility before us we should base the education of our soldiers on European warfare. There is another good reason why this should be done: savage warfare, say in India or in Africa, is merely European warfare with a difference. The strategy does not differ. The strategy which we should employ if we were leading an Army of a million men against the French would be precisely the same as we should employ in leading 5,000 men against the Zulus. We should, in either case, endeavour to annihilate the enemy's field force, and at the same time to cut off his source of supply. These are the two main points of strategy, applying equally to savage and civilised warfare. Moreover, with regard to tactics, you cannot base tactics, at any rate the manœuvring portion of it, on conduct against savages armed with inferior weapons. But if as the foundation of your tactics you have laid down, by study and consideration, those principles which are right against a civilised enemy, then, *mutatis mutandis*, you can use them against inferior savages. It is for these reasons that I deprecate the statement that it does no good to English officers to study European war. If you do not base your studies on European war, you will never be able to meet the savage. Similarly, I hold that for the general study of war, while it is undoubtedly useful and desirable to study wars fought out by the great masters of the art on the various theatres of war—as Moltke did, for instance, previous to 1866, but as the Austrians did not do—however desirable it is to follow out the movements of the ancient masters, still it is essential that our teaching of the military art should be based on those conditions which prevail at the present moment; and the differences between these and those obtaining in former wars must be borne in mind if the study of the latter is to be of any utility.

Mr. H. SPENSER WILKINSON:—As an outsider I feel a certain amount of surprise at the course which the discussion has taken. Attracted by the title of Colonel Hale's paper, I came here in the hope of hearing something about the professional study of war; and I am much disappointed to find Colonel Hale, and most of the officers who follow him, discussing the study of military history, as a matter for the instruction of boys, or for officers of the Army who have no time. I understand by the professional study of a subject, its study by those who are competent to deal with, and the principal part of whose lives is devoted to the subject in question. I am perfectly startled to hear the theory put forward that the British officer has only time to become acquainted with one campaign, or perhaps one and a half. In any other profession—in the profession of the law in which I was brought up, or in the profession of medicine—it is generally expected that the competent man not only understands the practice of his own day, but has learnt the development of his science from the beginning; and I should have supposed that by the professional study of war we meant that kind of knowledge. By history, I understand the course of development; and I should have expected the professional study of military history to mean the development of the practice, and the history of the principles governing it, from the beginning of time to the present day. But I find no conception of that kind in most of what we have heard. Of course, any study is undertaken with some object. What are the objects that we have heard of? Colonel Hale puts the whole matter as though it were the way in which a young officer was going to learn how to command a company. I put it to you as professional soldiers, Will a young officer be made

much better able to handle his company, because he has studied past campaigns? I think you will probably say, that all that he will gain in the management of his company from studying past campaigns is a certain amount of illustration of what may be done with a company from those not very numerous cases in which the very detailed actions of companies are recorded. How few are the past actions in which we know in full detail the precise object of the captain handling his company in battle! Colonel Hale used a phrase in the course of his lecture to the effect that tactics consisted in the application of the weapons of the epoch at which the battles take place. Where can you find a campaign fought with weapons resembling those of to-day? Colonel Hale informed his audience that the battle of Waterloo was fought in 1815, his point I suppose being that it was a long time ago. One might remind him that the Franco-German war was fought in 1870—27 years ago, and that instead of the very imperfect breech-loader with which the Germans were then armed, all Armies are now armed with the magazine rifle, and in a short time the old field gun will probably be changed for the quick-firing field gun. I very much doubt whether you will get much more practical hints as to the management of a company, apart from the question of morale, from the war of 1870, than from the campaign of 1815. The advice of Napoleon to officers to study military history has already been quoted. He advised them to read and read again the campaigns of the great masters, beginning with Alexander the Great. Does anyone suppose that when Napoleon said that, he was giving advice to a company officer as to how to lead a patrol? I take it that he thought that military history was a study from which those who were likely to be responsible for the management of a war would learn how to conduct it, and that it was for governments and commanders that this study was necessary. When I hear it said that this is impossible, and that these campaigns are too many, it occurs to me that much more in our own time than in Napoleon's the man who is in the least degree likely to be called upon to command an Army in the field, or advise a Government on the conduct of a campaign, will not be a young man of twenty-five or thirty. It is very unlikely that he will be as young as Napoleon in his first campaign—the experience is that he is usually already a grey-headed gentleman; and I think that in the course of his life up to that time if he is a professional man, he ought to have had time to master the secrets of his profession, including military history. As to the method of study, my friend Colonel Hale has not, I think, very fairly criticised General Hamley's text-book. As I was, I believe, the first writer on military literature who criticised rather severely General Hamley's book, I may be allowed to say a word in its defence. If the book is to be taken as the last word on military history, no doubt it is not satisfactory, because you will not get from it the whole conditions in which a campaign is fought; but I take it that that was not General Hamley's object. I take it that what he wanted was to write an elementary treatise on the principles of strategy, and for that purpose he found it desirable not merely to give definitions, but to illustrate them; and if we read his book as a series of definitions with illustrations, I certainly say, in spite of all that has been said against the book in past times, that I do not think any better book of the sort exists in any language. But if you read General Hamley's book and stop there you will get a very distorted idea of the different campaigns, because his purpose is merely to illustrate from different campaigns what is meant by such expressions as "interior lines" and those things which Colonel Hale has put on the board. Although Colonel Hale condemns General Hamley, he appears to me to stand on General Hamley's ground, because when he talks about strategy he says, speaking of his favourite campaign of 1870, that the student will find there the examples of strategy that he wants. What is the strategy that Colonel Hale wants? It consists in such ideas as forming front and flank and an Army placing itself across its adversary's communications; in other words, he is anxious to illustrate certain elementary definitions. I happened yesterday to be making a reference to

Marmont's little book called "The Spirit of Military Institutions." In reading the preface I was much struck by what was said by Marmont, perhaps the most serious student among the brilliant marshals of Napoleon. Marmont says that the study of military history is very valuable, because it gives certain eternal principles of which the application is very difficult. Then, again, he says that one of the greatest masters in his business who ever lived was Napoleon. What does he say of Napoleon? How does he show that he was a great strategist? He does not say that he knew all about interior lines, forming front to a flank, and so on; but he says that nobody knew better where to strike his blow: *nul n'a mieux su reconnaître d'avance le point où il devait frapper.* I think a great deal of advantage would be gained in a professional study of military history if we were much more accustomed to ask ourselves the large question on which the opening of all campaigns depends—why did the general, in the first instance, choose the particular course of action which he followed? Colonel Henderson has well reminded us that war is a political matter; that it is a quarrel between two Governments, and that before you can have a war well-conducted, the Government must know its mind, must know what it wants from the other Government, and by what process of force it can compel the other Government to change its mind; and in making up its mind as to how it will apply that force, it requires strategical advice and knowledge; then you require the general to execute the plan which he has suggested, and put before his Government. I am now speaking, not as a professional soldier, because I am not one, but as a student much interested in watching the progress of professional thought in the British Army. I see here professional men discussing professional study, and taking it on the level of what is to be done with school-boys. I will venture on a second instance of where I think the professional study of the British Army falls short of what it should be. I am speaking, not to cadets, but to distinguished officers like yourself, Sir, whom we look upon as the great leaders of our Army. We have heard Colonel Hale telling us about the Franco-German war. He tells us these battles were more modern than the battles of Napoleon; and Colonel Henderson tells us how certain strategical combinations are better illustrated by it than by the battles of Napoleon. During the last three years you have had published the whole of the strategical discussions and investigations worked out by Moltke before he began his campaigns of 1866 and 1870, whereas, until a few years ago, you did not know what Moltke was driving at except by inference from the opening moves of those campaigns. You can now follow every modification of those plans to suit the political situation existing at the time. But, although those books have been published for two or three years, I have looked in vain to this Institution, and to our professors of military history, to see some comparison of those movements with similar discussions and considerations which have guided previous campaigns. I agree with our lecturer in saying that military history should be studied backwards in this sense, that no one can venture to examine or criticise the operations of a general, unless he is himself a competent man. If a man cannot himself sit down and say "In this position those are the orders I should give, those are the arrangements I should make for this division and that division," if he has not accustomed himself to work out a campaign as a series of problems which he endeavours to solve, I should say that his criticisms on the operations of a general in the field will be worthless. It is the professional man, the man whose business it is, or might be, to conduct operations, the man who will take pains to put himself in the commander's place, and then criticise—it is such a man who will throw light upon the subject. Before he can do that he must have learnt his business as a soldier by professional study. I can understand attempts made by a man who does know his own business as a soldier, and has made himself a competent general, to examine the course adopted by a number of previous generals, and, by a comparison of the experience of Frederick the Great, Moltke, and so on, to discover what are those general principles of

which we hear so much, the application of which differs from time to time; and I believe that, by starting from the political situation and asking one's-self what was the object which the two Governments had at the beginning of the war, and how the general could endeavour to attain that object, and how he proposed to make his movements tell on the decisions of the opposing Government—starting from that we may get a clue to what happened in a good many campaigns, and, by a comparison in that way of a sufficient number of campaigns, we shall see something of the development and the nature of war, and so see that war in every age is the reflection of the general state of society and civilisation of the time in which it is carried on.

The CHAIRMAN (Major-General Sir W. F. Butler, K.C.B.):—The extremely interesting paper which we have heard, and the exhaustive discussion which followed it, have left the Chairman very little to say—very little, at any rate, that can be regarded as original—because the ground has been perfectly covered. I think we are all agreed with Colonel Hale—there was no difference of opinion on that point even amongst those who differed so much from him—as to the desirability and necessity of the study of military history. The difference arose in regard to the method of application of that study—whether it was to be read backwards or forwards. As a free-lance in the study of military history, it seems to me that so much was shown on both sides, that the truth probably lay somewhere between the lecturer and his critics, as is often the case in these matters of difference. The only question, it appeared to me, that was not covered either in the lecture or the discussion was that military history must be, from its very nature, an imperfect record of the truth. That is a very wide statement, but I think I can prove it. So far as the lesson conveyed by military history is concerned, its most valuable part must be a lesson of defeat, just as doctors study disease in order to arrive at health. Now, I do not think that the beacons or marks, or whatever they may be called, which are set up in military history for the guidance of students are always accurately and justly placed, and the worst of it is that the nearer we approach the time under review—the nearer it is to us—the less likely are we to find these buoys or beacons placed upon the particular shoals and rocks which they should indicate. Few men who write history, especially military history, do it for the mere sake of abstract truth. They approach the subject from other points: they have to think of their patrons and their readers, and, more than all, they think of their own prejudices and partialities. But far be it from me to disapprove of, or throw cold water upon, the study. On the contrary, I believe that the very widest and most extensive study of military history is not only desirable, but absolutely necessary to the development of the military mind. All I contend is, that we do not possess, and I do not think any nation possesses, a really accurate, sound, truthful text-book upon any of the military events of the last forty years. The great advantages of the old books is that we may be sure they are pretty fair. When we speak of Hannibal and Cæsar, we have no prejudice in the matter. But it is a very different thing if you begin at the "prehistoric time of 1815," for then our prejudices were hot, and our partialities still glowing. That, I think, is the reason why it is necessary to go back to earlier examples, because we are sure that we are dealing with a fair and just estimate of the age. Take, for instance, the campaign of 1815, or the expedition in the Crimea; have we any just, true, and accurate account or explanation of all the causes underlying the disasters in these campaigns—in which as much is said, and as fairly said, on one side as on the other, like the summing-up of a judge before a jury? If we have, I certainly have not read it. I doubt if such a work exists, even in regard to the campaign to which Colonel Hale has directed so much attention; in fact, the nearer we come to our own time, the more rampant will be the prejudices, and the stronger the partialities. The great strategic principles of war, to my mind, vary only in their application—their essence remains the same;

but they are not for every-day use—they must remain the study of a few minds—what can be for every-day use is that part of military history which deals with, and teaches, the tactical or intelligent application of means to ends. The use of brain in directing the effort and labour of the body, and above all that higher mental culture so difficult of definition, was undoubtedly in the mind of Charles Gordon when he wrote from Khartoum as one of his last messages, that the study of Plutarch's Lives was of greater consequence to a young officer than all the major or minor tactics ever written. Gentlemen, I am sure that I voice your united feelings when I convey to Colonel Hale our sincere thanks and appreciation for the paper he has read to us. Colonel Hale has been identified perhaps more than anyone now living with the study of the teaching of military history. He informed me when we were coming to the hall, that it is now twenty-one years since he gave his first lecture in the neighbouring hall of this Institution. That is a long period. No critic has a bed of roses, and least of all a military critic; and we owe all the greater thanks to Colonel Lonsdale Hale that, through storm and sunshine, he has always openly and fearlessly spoken his mind on all military questions. That is not always an easy thing to do. No matter whether we differ from him or agree with him, we must all recognise that no more ardent teacher has been among us; and even though some of us may disagree with many points in his lecture, we owe it to him that he started the hare which has given us so much interest this evening.

Note by the LECTURER :—

The best method of studying military history has lately been a subject of keen discussion. One of the chief objects in the delivery of my lecture was to obtain the views held on this matter by officers qualified by experience and knowledge to pronounce opinions upon it. Each officer who took part in the discussion had, therefore, received from me beforehand a printed copy of the lecture. The speeches may consequently be fairly regarded not merely as replies to the lecturer, but as carefully-considered expositions of the views of the speakers on the study of military history, and as such they are of special value. Readers of the JOURNAL have now before them a number of separate short essays on the matter, and will be able to form their own opinions thereon. Naturally, I hold to my own views, for "a man convinced against his will is of that opinion still." Moreover, I think that sometimes the speakers had a little misunderstood me. I desire to record my obligations to them for having taken the trouble to come and take part in the discussion.—L. A. H.

THE MADAGASCAR EXPEDITION OF 1895-96.

Summary from the Official Report of General Duchesne,[1] dated 25th April, 1896.

General Duchesne returned to France from Madagascar on the 20th February, 1896, and in compliance with orders from the Minister of War (then M. Cavaignac), compiled a preliminary report, embodying the essential facts of the Expedition which he had successfully led from the North-West Coast of Madagascar to Antananarivo, the capital city, and seat of the Malagasy Government in Imerina, the interior province of the island. General Billot, who succeeded M. Cavaignac as Minister of War, published this report in September, 1896, and the following summary of its contents has been prepared for publication in the JOURNAL *of the Royal United Service Institution by Captain S. Pasfield Oliver, late R.A.*

I.—Origins of the War.

THE reasons for the despatch of the Expedition were fully set forth by M. Hanotaux in Parliament.[2] Briefly, they consisted in the resistance offered by the Hova Government to the execution of clauses in the Treaty of December, 1885, and in the unwarrantable claim by which the *ultimatum* of the French Plenipotentiary was encountered in October 1894.[3]

Thereupon the exodus of the French inhabitants, and the retirement of the Resident's escort were carried out without delay; and, by vote of Parliament on the 7th December, 1894, the Government (then under M. Dupuy's administration) was granted the means for imposing on the Malagasy Government, by force of arms, submission to the French Protectorate.

[1] *Rapport* fait au Ministre de la Guerre sur l'Expédition de Madagascar par le Général Duchesne, Commandant du Corps Expéditionnaire, le 25 Avril 1896. Publié dans le *Journal Officiel*, des 12e, 13e, 14e Septembre 1896.

A reprint of General Duchesne's report has been published in book-form by Charles-Lavauzelle (Paris, 1896); and a more complete volume with maps, plans, and tables has just been issued by Berger-Levrault et Cie. (Paris and Nancy, 1897).

[2] *Vide* Debates in the Chamber of Deputies, 13th and 23rd November, 1894; and in the Senate, 6th December, 1894; when a credit of 65,000,000 francs was voted for cost of the expedition at the request of General Mercier, then Minister for War, and M. Félix Faure, then Minister of Marine; of this grant, 43,500,000 francs for the War Department, and 21,500,000 francs for the Marine Department, were allotted by the Chambers. The law authorising the above credits was promulgated on the 7th December, 1894.

[3] The Plenipotentiary, M. le Myre de Vilers, presented his *ultimatum* to Rainilaiarivony, the Hova Prime Minister, on the 20th October; and, having received no acceptance of its conditions by the 27th December, he quitted Tamatave for Europe, on that date.

II.—Studies, preparatory to the Organisation of the Expedition.

For more than a year previously, the Ministries of War and Marine had been studying the ways and means for the conduct of a campaign in Madagascar. The latter department had already reconnoitred the possible points of disembarkation on the east and west coasts of the island. The information acquired by the respective staffs of these departments made it plain that serious difficulties existed in the way of an expedition. Among others, (1) the complete absence of roads or communications other than mere paths carried over considerable natural obstacles, (2) the general unhealthiness of climate in the lowlands, (3) the want of local resources, except in Imerina. As to the means of military defence; although the Hova Army seemed incapable of offering a serious resistance, account had to be taken of the fact that the Hova soldiers had been partially drilled by European instructors, that the Hova Government had been furnished with quantities of arms and ammunition, and that it could put into line some 25,000 or 30,000 armed men, provided with 40 or 50 pieces of modern artillery.

In August 1894, a mixed committee, which had been appointed to collect information and to study the project of an expedition, furnished its report, and recommended—an effective *minimum* of 12,000 combatants, to be exclusively victualled from the rear; the route from Majunga by the valleys of the Betsiboka and Ikopa rivers, as presenting the least amount of difficulties for the disembarkation of the Expeditionary Force and for its march upon Antananarivo; the utilisation of the waterway of the Betsiboka, up to its confluence with the Ikopa, as practicable and desirable for the transport of *matériel* and even for a portion of the troops. These recommendations were adopted so far as regarding the line of operations and the use of the Betsiboka channel.

At the end of October the Marine Department had arranged the constitution of a flotilla of river-boats for this purpose; but, in the middle of November, the Government decided to give the general direction of the Expedition to the War Department, which adopted the Marine programme for construction of the flotilla with slight modifications. At the instance of the mixed committee, it was decided to adopt as the principal means of land transport, the metal carts, found useful in Dahomey, the Soudan, and Tonquin, and known as the "voitures Lefebvres."

III.—Preparation of the Expedition.

The Marine Department undertook the transport service by sea, the charge of the port of Majunga, the surveillance of the coasts and the command of all permanent or temporary establishments formed outside the zone of immediate military operations.

General Duchesne was selected to lead the Expedition, and summoned to Paris on the 28th November. He was then appointed President of a committee of organisation, to which the future chief of the staff and the principal heads of departmental services of the Expedition were also attached. The law authorising the grant of 65,000,000 francs, for the

Expedition was promulgated on the 7th December; from which date, the above Committee of consultation acted under the direction of the General Chief of the Head Quarter Staff, until the 25th March, 1895, the date of the constitution of the several services of the Expeditionary Corps.

Meantime the Minister for War pushed on the contracts for the construction of the flotilla, with the aid of the Marine Department in fitting out and commissioning the vessels. (See Table A.)

Table A.

Units.	Draught.	Speed.	Place of Construction.
4 Steam Tugs (type A) ...	Drawing 0 m. 70 = 27½ ins.	Min. speed 8 knots	Saint Denis
8 Steam Tugs (type B) ...	Drawing 0 m. 40 = 15¾ ins.	Min. speed 6 knots	Havre
10 Lighters			La Seyne
8 ,, ...			La Seyne
18 ,, ...			Havre
6 ,, ...			Marseilles
4 Pontoons			,,
6 Steam Launches			,,
			Saint Nazaire

The Minister of War also contracted for the construction of a wharf, for material of transport and disembarkation at Majunga and supply of Lefebvre carts.[1]

Constitution of the Expeditionary Corps—Personnel.

General Mercier had decided, for reasons stated to Parliament, to employ, in part, troops taken from the Territorial Army. Minute precautions were taken to eliminate from these units all men with less than one year's service; and all men composing the units were volunteers (excepting a few for the technical services).

The composition of the Expeditionary Force was fixed, as follows:—

Infantry.—1 Battalion of Chasseurs à pied (the 40th Battalion).
4 Regiments of Infantry of 3 Battalions each; including—
1st Brigade.—The Algerian Regiment (2 Battalions of Algerian Tirailleurs, 1 Battalion of the Legion).
A Regiment of the Line (the 200th Regiment).
2nd Brigade.—A Regiment of Marine Infantry (the 13th Regiment).
The Colonial Regiment (1 Battalion Malagasy Tirailleurs, 1 Battalion Haoussas, 1 Battalion Réunion Volunteers).
Total, 13 Battalions of 800 men, or 10,400 men—Infantry.

Cavalry.—1 Squadron of the Chasseurs d'Afrique (of 150 sabres 10th Squadron 1st Regiment).

Artillery.—1 Group of 2 Mountain Batteries Land Service (15th and 16th Batteries of the 38th Regiment of Artillery).
1 Group of 3 Mountain Batteries, Sea Service (7th, 8th, and 9th Batteries Marine Artillery).
1 Group of 2 Field Batteries Land Service (17th and 18th Batteries of 38th Regiment of Artillery).

[1] The number of Lefebvre carts was fixed at 5,000 [4,000 open *(à ridelles)*, 1,000 covered], besides 40 tank carts *(voitures-citernes)*; 1,000 sets of harness with pack saddles, and 4,000 sets for draught. These were furnished by 15th March.

Engineers.—4 Companies of 200 men each with their parks.
1 Park of Engineer Material.

Military Train.—6 Companies (Whites), forming 1 squadron of the train (the 30th).
1 Company (Sénégalais Blacks) with an effective of 500 conductors (6th Company *bis*).

Services.—1 Section of commissariat and military workmen (30th).
1 Section of Military Hospital attendants (*infirmiers*) (the 30th).
1 Detachment of Staff Clerks.

The total of the Expeditionary Corps, inclusive of the *personnel* of the Head Quarters and Departmental Service, was thus fixed on the following scale, viz. :—

658 Officers and ranking as such.
*14,773 N.C.O.'s and men.
641 Saddle horses.
6,630 Mules (draught and pack).
56 Pieces of Ordnance, 30 of 8$^{m}/^{m}$ Mountain.
12 of 80$^{m}/^{m}$ Field.
4 of 120$^{m}/^{m}$ Short Howitzers.
5,040 Lefebvre carts.

Including reinforcements of 3,228 men, the total number of N.C.O.'s and men, French and natives, who joined the ranks of the Expeditionary Corps, amounted to 18,340.

Table B.

Reinforcements sent out to Madagascar.

Infantry.—By the "Douro" and "Guadalquivir," which conveyed the Kabyles, to keep order on board, 130 Algerian Tirailleurs, attached to 3rd Battalion Algerian Regiment on arrival at Majunga. By the "Vinh-Long," 500 men for the 200th Regiment, 150 for 40th Battalion Chasseurs; 150 for the Foreign Legion; total 800, who disembarked at Majunga 24th August.

Artillery.—By the mail-steamers of 3rd and 12th July, 90 artillerymen to fill vacancies, and 30 artificers by the "Provence" on 20th June.

Engineers.—By the "Provence," 20th June, 33 sappers, artificers; by the mail-steamer, 12th July, 400 men forming 5th Company; and by the "Cachar," 23rd August, 30 sappers, telegraphists.

Military Train.—By the "Provence," 20th June, 15 drivers; by "Concordia," 26th June, 8 drivers; by mail-steamer 12th October, 74 drivers, 26 artificers.

30th Section, Commissariat and Military Artificers.—103 men sent in detachments on 20th, 26th June, 12th July, 10th and 28th September, by mail steamers.

30th Section Infirmary Attendants.—285 men, in detachments from 12th June to 3rd October, by mail-steamers.

Gendarmerie.—15 gendarmes, to fill vacancies, 12th July by mail-steamer.

Marine Troops.—306 men by mail-steamers 3rd September; 150 men for Réunion Volunteers 12th September, 102 Marine Artillery: 500 Haoussas for Colonial Regiment.

Flotilla.—By "Vinh-Long," 1st August 154 Naval officers and sailors, and 76 by mail-steamers, 3rd to 12th October.

These reinforcements form a total of 3,228 men.

* To these figures must be added, to get the totals, the reinforcements sent, successively to Madagascar during the course of the Expedition. (See Table B.)

Armament Ammunition and Engineers' Stores.

The *Infantry*, including marine troops, were armed with the Infantry rifle pattern of 1886-1893 (with 400 cartridges per rifle); and the *Cavalry*, *Artillery* and *Train* with the carbine or short rifle, pattern of 1892; whilst in addition 5,000 cavalry carbines, pattern of 1874, with (100 cartridges per rifle) were provided for the armament of the conductors.

The *Artillery* was furnished with 350 rounds per gun, besides a special reserve of 500 mélinite shells.

The *Engineer Staff* was supplied with bridging material and considerable quantities of telegraphic, electric, and optical stores (465 miles of telegraph wire, with 20 sets stations; 24 sets telephonic stations, and 31 sets optical signalling apparatus (28 of 0^m 30 and 3 of 0^m 10); a small aerostatic park (3 balloons, with 5 hydrogen inflations); quantities of hutting materials, portable huts, piles, draining pipes, etc., sufficient to cover and regulate a total surface of more than 19,000 square mètres (about 2 hectares, or nearly 5 acres).

At the same time the War Department, well aware of the special difficulties to be anticipated in a country altogether destitute of resources and notoriously unhealthy, took pains to constitute, with precautions and unexampled liberality, the stores of the commissariat and medical services.

Stores of the Commissariat Service.—The scale of subsistence was regulated on the following bases:—

12 ovens of 180 rations for station,
6 ,, ,, 200 ,, ,, ,,
6 ,, ,, 300 ,, ,, ,,
36 portable ovens of 380 rations for station,

together with barrack-tents, tools and accessories, 2,750 barrels of 100 litres and 1,000 casks.

The daily ration of the troops was fixed at the full ration in the field, *i.e.* (with certain substitutes for Algerian Tirailleurs and Black troops) 750 grammes ($1\frac{1}{2}$ lbs.) of bread, or 600 grammes ($1\frac{1}{5}$ lbs.) of *pain de guerre*; 500 grammes (1 lb.) fresh meat, or 250 grammes ($\frac{1}{2}$ lb.) of preserved meat, 100 grammes ($3\frac{1}{5}$ oz.) of dried vegetables, or of rice and *petits vivres*; in addition 4 centilitres tafia and 4 grammes tea.

Among other consignments were 80 large marquees of various sorts, and 1,200 bell tents (*tentes coniques*) for 16 men.

Hospital Service:—*Matériel*:—In addition to the normal hospital equipment (*personnel* and *matériel*), of each corps, which was doubled for this Expedition, the following extraordinary hospital establishments were formed, viz:—

2 Field Ambulances, No. 3 Algerian type modified;
4 Field Hospitals, of 250 beds each;
1 Overflow Hospital (*hôpital d'évacuation*) for 500 sick, with disinfectant stove;
1 Sanitorium for 500 sick, with disinfectant stove;
16 Infirmary Ambulances. Tonkin pattern.

The "Shamrock," naval transport, was to be utilised as a floating hospital; and later the "Vinh-Long," each with 350 beds.

Personnel.[1] 70 surgeons (20 Marine and 50 Army); 8 dispensers; 22 store officers; 9 chaplains (8 Catholic, 1 Protestant); 14 hospital sisters (*Sœurs de St. Joseph de Cluny*).

From the information gathered regarding the climate, and taking into consideration the amelioration to be expected on reaching the plateaux of the interior, preparations were furnished for an average of from 40 to 50 per cent., which was, in truth, found to be below the reality.

Material for Sanitation Service included 3 apparatus for sterilisation of water (1 for 20,000 litres, 2 for 10,000 litres); 5,600 stretchers; 500 hospital beds, with linen and mosquito nets complete; 2,500 stretcher-beds with mosquito nets and linen complete; 20,000 packets of bandages and large provision of medicines; 10 tents *Tollet*, 27 tortoise tents, 37 bell tents; 62 portable barracks (*Wehrlin-Espitalier* pattern).

Provision was made for hospitable accommodation of 2,500 sick (one-sixth the strength of the Expeditionary Corps), besides those in infirmary ambulances.

The most essential of the medicines provided was, undoubtedly, Chlorhydrate of Quinine, of which 500 kilogrammes (1,102 lbs.) were sent out with the troops, whilst as much again was subsequently despatched. General Duchesne, besides, took out with him 800,000 Chlorhydrate Quinine pills (80 kilogrammes = 176 lbs.); and in addition, 1,080 kilogrammes (2,380 lbs.) Spirit of Quinine, and 1,300 kilogrammes (2,865 lbs.) of Quinine powder.

Large quantities of medical comforts were also sent out by the various patriotic societies; the *Red Cross Society*, *Les Dames de France*, and *Femmes Françaises*.

Colonel Bailloud, at Majunga, was entrusted with the control of the reception and distribution of the contributions received from the above societies.

In this agglomeration of 15,000 soldiers and 7,000 auxiliaries, besides the endemic fever of the locality there was no epidemic of typhoid, typhus, cholera, or small-pox.

Personnel — Marine and Naval Division. — Besides the permanent naval division of the Squadron in the Indian Ocean, which had been reinforced[2] for the purpose of co-operating in this Expedition, the Marine Department, which had detached, on 17th November, 1894, an Assistant Engineer officer, M. Revol, to the War Department, furnished, in succession, the artificers for putting together the river boats, the

[1] The *personnel* of the Medical Service suffered cruel losses in the course of the Expedition, and General Duchesne bears testimony to its devotion, which was, he says, beyond all praise. Of the officers, 2 naval, 2 army surgeons, 2 administrative officers and 2 chaplains died, whilst many were invalided home. Reinforcements of 27 surgeons, 8 administration officers, and several chaplains especially to attend the sick and dying on return voyage were sent out, besides 285 infirmary attendants.

Two surgeons were attached to each of the 13 battalions of infantry; 5 surgeons to each field ambulance; 5 to each field hospital, 5 to overflow hospital; 6 to each sanatorium.

[2] List of Ships. (See Table C.)

Table C.

Navires.	Nature des Bâtiments.	Nom et Grades des Commandants.	Effectifs.	
			Officiers	Equips.
Primauguet	Croiseur de 2e classe	Capitaine de vaisseau Bienaimé[1] ...	16	255
Dupetit-Thouars ...	Croiseur de 3e classe	Capitaine de frégate Campion	9	202
Dumont-d'Urville	Aviso de 1re classe...	Capitaine de frégate Noirot	7	109
Papin	Aviso de 1re classe...	Capitaine de frégate Havard	7	109
Rance	Aviso-transport ...	Capitaine de frégate Legrand	8	110
Romanche	Aviso-transport ...	Capitaine de frégate Salaun-Penquer	8	111
Gabès	Canonnière	Lieutenant de vaisseau Serpette ...	5	71
Météore	Canonnière	Lieutenant de vaisseau Jaubert ..	5	71
Lynx	Canonnière	Lieutenant de vaisseau Gantès... ...	5	71
Corrèze	Ponton	Lieutenant de vaisseau Chapelle ...	2	48
Shamrock[2]	Transport-hôpital ...	Capitaine de frégate Lieutard	12	285
			84	1,442

[1] Commandant de la division navale, promu contre-amiral le 6 juin 1895.
[2] Rentré en France en septembre 1895, et remplacé par le transport de 1re classe "Vinh-Long," puis par "l'Annamite."

personnel of Harbour officials to take charge of the Port of Majunga, and lastly the staffs and crews of the vessels forming the river flotilla.[1]

Remounts.—Purchases were made in February, 1895, of the following animals:—640 Algerian horses; 2,134 French mules; 3,496 Algerian mules: total 5,640 mules. 1,000 Abyssinian mules were ordered but only 430 mules were procurable at Obok, so, in June, 800 Algerian mules and 40 Algerian horses were forwarded.[2]

[1] These reinforcements included:—1 midshipman, 51 dockyard staff from Cherbourg, sent 23rd January. 1 captain, director of port of Majunga and Commandant of the river flotilla, sent on 12th March. 3 lieutenants, 9 midshipmen, 316 petty officers and sailors, 120 blacks, embarked 12th March. 3 officers, 1 commissariat, and 43 sailors, for repairing river-boats, for service at Majunga and Nossi-Comba.

[2] The average price paid for mules was about £16 5s. each (406 francs).

Auxiliary Conductors.[1]—(Native Drivers.) Between January and June, from Obok and Comoros 1,143 Abyssinians and Somalis and 270 Comoriens, total 1,400 drivers, were obtained. In Algeria 5,500 Kabyles[2] were recruited. In all a total effective of 7,300 conductors was provided.

IV.—Dispositions regarding the Embarkation and Disembarkation of the Personnel and of the Matériel.

The port of Majunga, at the entrance of Bembatoka Bay, chosen as the maritime base, was ordinarily in communication with France by a fortnightly service of the *Messageries Maritimes'* packets, over two lines, one by Zanzibar, and another by Réunion, Mauritius, and Seychelles. The Marine Department now contracted, for a third monthly service, with the Havre Peninsula Company running direct from Marseilles to Majunga, Réunion and back; but the transport of the Expedition needed also the chartering of numerous steamers which were detailed to start at regular intervals as required to fulfil the military programme. The departure of the Advanced Guard under General Metzinger[3] was fixed for 25th January, 1895, and, in addition, much of the *matériel* for the organisation of the maritime base; but for economical reasons the great proportion of *matériel* was shipped in the holds of the hired transports, and only arrived at the same time with the troops of the main body, in May.

Climatic conditions forbidding active operations before the middle of May, the departure of the transports was arranged to take place during April, according to a table drawn up by the Organisation Committee; and twenty-four vessels were chartered by the Marine Department for this service.[4]

At Marseilles a reception committee and an embarkation committee were formed under the Staff Officer of the 15th Corps d'Armée, to receive and to superintend the embarkation of stores despatched by the Central War Administration.[5]

Of the 24 transports despatched, 7 arrived at Majunga on the dates arranged, 12 in advance of their time, and only 11 were behind time.[6]

[1] A company of 500 Sénégalais, 6th company (*bis*) of the Transport Train, was at first the only element of mobility available for the Advanced Guard.

[2] Before the return of the Expedition, 1,200 of these Kabyles had been invalided home.

[3] Brigade Staff; a Battalion Algerian Tirailleurs; a Battery Mountain Artillery; Half a Company Engineers, and Detachments of Transport Train, Artificers, and Hospital attendants.

[4] These 24 transports being found insufficient, 6 were added, raising the total number to 30 ships hired. (Table D.)

[5] This committee ceased on 21st May, when it was replaced by a mixed committee of three, viz., Senior officer of Staff, superintending embarkation at Marseilles, Senior Naval Officer and Officer of Colonial Department at Marseilles.

[6] The "Foulah," thirty-two days behind date.

Table D.

List of Transports and Dates of Departure and Arrival.

No.	Name of Transport.	Departure from Marseilles.	Arrived at Majunga.	Troops on Board.
1	Notre Dame du Salut ...	12 Feb.	7 March	Wharfage material, [stores
2	Adour	19 March	10 April	Marine Infantry, railway
3	Cachemire	23 ,,	23 ,,	Algerian Regiment
4	Canton	31 ,,	24 ,,	Algerian Regiment
5	Liban	31 ,,	28 ,,	Foreign Legion
6	Egypte	2 April	29 ,,	Marine Infantry
7	Chandernagor	6 ,,	30 ,,	Chasseurs d'Afrique
8	Entre Rios	9 ,,	1 May	Mules and ammunition
9	California	10 ,,	8 ,,	Kabyles and mules
10	Cachar	12 ,,	3 ,,	40th Chasseurs à pied
11	Rio Negro	12 ,,	4 ,,	200th Regt. 1st Battn.
12	Dordogne	13 ,,	5 ,,	Kabyles
13	Tigre	14 ,,	6 ,,	200th Regt. 1st Battn.
14	Amérique...	17 ,,	12 ,,	Provisions and material
15	Carolina	17 ,,	14 ,,	Mules and stores
16	Uruguay	18 ,,	9 ,,	200th Regt. 2nd Battn.
17	Massilia	19 ,,	15 ,,	Algerian Regiment
18	Château Yquem	20 ,,	20 ,,	Marine Infantry
19	Ava	21 ,,	11 ,,	Kabyles
20	Paraguay	22 ,,	11 ,,	200th Regt. 3rd Battn.
21	Thibet	22 ,,	15 ,,	Commissariat Transport
22	Tafna	23 ,,	20 ,,	Details
23	Berry	25 ,,	17 ,,	Military Train, mules
24	Foulah	28 ,,	29 June	Provisions, mules
25	Maroc	29 ,,	26 May	Details
26	Douro	29 ,,	25 ,,	Kabyles
27	Anatolie	30 ,,	22 ,,	Material, Military Train
28	Canarias	1 May	24 ,,	Provisions and stores
29	Vercingétorix	1 ,,	24 ,,	38th Artillery
30	Guadalquivir	16 ,,	10 June	Kabyles

"Shamrock." Government Transport Hospital Ship, arrived 28th February.
"François Arago." Telegraph Cable Contractor's Vessel.
"Stamboul" conveyed Black troops and porters from Kotounou, West Coast Africa, arrived Majunga 20th May.
"Ville de Maranhao" conveyed Haoussas and porters from Libreville, arrived Majunga 25th April. [*Vide* Table B *ante*].

Special local arrangements for disembarkation were made at Majunga.[1]

Meantime the construction of the river flotilla was actively progressing; and three special vessels were engaged by the War Department to carry the sections of these boats and the Lefebvre carts to Majunga. By an accidental delay,[2] the "Brinckburn" did not reach Majunga until 2nd May; the "Riverdale"[3] arrived 28th April, and the

[1] The "Sigurd" and "Boeni," small steamers on the coast, were hired, with the "Ambohimanga," taken from the Hovas, were utilised as tugs; whilst but few native dhows and canoes were procurable. Various lighters were requisitioned from Nossi-Bé, for disembarkation of the material for the river flotilla.

[2] The "Brinckburn," leaving La Seyne on 26th March collided on the 29th in Straits of Messina, and had to put into Malta for repairs. She carried the river gun-boats in sections.

[3] The "Riverdale," carried 24 lighters, and 1,000 Lefebvre carts.

"Collingham"[1] reached Majunga 7th May. The want of hands caused regrettable hindrances to the discharge of these vessels, and of the hired transports at Majunga; where the beach for 300 yards was blocked by an encumbrance of cases and material of all kinds. As the rate of *demurrage* of the hired transports was expensive, it led to haste in unloading them, and consequent confusion, more especially as the wharf was not completed for some time.

As soon as the wharf had been built and connected by a tram-line with the artillery and engineer parks, this confusion became mitigated.

All the maritime operations in the port of Majunga, including the construction of the flotilla boats,[2] and the service of these vessels between Ankaboka and Marololo,[3] when they carried upwards of 100 tons *per diem* for many weeks together, were in charge of the Navy under Rear-Admiral Bienaimé, whose good-will, energy and intelligent action are warmly acknowledged by General Duchesne.

V.—Theatre of the War.

The principal theatre of the war included a zone extending from Bembatoka Bay, along the course of the Betsiboka (navigable for 125 miles by shallow-draught vessels), up to the confluence of that river with the Ikopa; and thence prolonged across the watershed between the upper valleys of these rivers, as far as the plateau of Imerina. From Marololo, at the confluence (65½ feet altitude), the track by land to the capital (4,782 feet) measured about 186 miles.

The information received, although giving this great difference of level, did not indicate any great difficulty to be met with along this route; but on the contrary, it was reported that a moderate amount of work would render the road practicable for carts.[4] It was known that the

[1] The "Collingham" embarked the remainder of the flotilla material and artillery of the gun-boats.

[2] The first armed steam-tug was able to leave Majunga with 2 lighters on the 28th May. The second followed on the 1st June, with the Commander-in-Chief; the third, on the 6th June, proceeded to Marololo with 2 other lighters, and the others succeeding at intervals of 2 or 3 days.

[3] Three hired coasters of 150 tons, the "Kilwa," the "Barawa," and the "Gertie," were employed between Majunga and Ankaboka; and drawing but 12 feet, these vessels could at all tides go alongside the wharf at Majunga.

[4] The following maps were available, viz., General Map of Island, by Père Roblet $\frac{1}{1000000}$; Do., by MM. Laillet and Suberbie $\frac{1}{1000000}$; Imerina, by M. Grandidier, $\frac{1}{200000}$; and Betsileo, by MM. Grandidier and Roblet $\frac{1}{300000}$; besides various sketch routes from Majunga to Antananarivo, by M. d'Anthouard and Lieut.-Colonel de Beylié. Since, M. Grandidier has published Imerina in two sheets of $\frac{1}{100000}$.

In October, 1894, Lieutenant Aubé finished his reconnaissance of the route from Majunga to Antananarivo, by Suberbieville and Andriba, as far as Maharidaza. This sketch was published and issued to all the officers of the Expedition, and was used as the general map of direction.

Beyond Maharidaza, Père Roblet's map of $\frac{1}{200000}$, printed at M. Grandidier's expense, was used. A Geographical Service was formed under Captain Bourgeois of the Artillery, by which the base measure near Majunga was connected by triangulation with the triangulation of Imerina, and base measured by PP. Roblet and Colin near Antananarivo.

country was denuded of trees, but that sufficient wood, water, and pasturage for the consumption of the troops could be obtained.

The programme divided the projected march in several divisions:—

Firstly, The establishment of the maritime base at Majunga; and whilst this was being carried on, it was intended by the boats of the naval division, to reach Marovoay at 50 miles, the probable limit of General Metzinger's operations during the rainy season.

Secondly, On the arrival of General Duchesne, in May, it was intended with the 1st Brigade to reach the confluence and occupy Mevatanana by the first week in June. It was foreseen that, although the troops might be carried by water, to this point, it would be necessary to make a road for the carts from Majunga to the confluence, and there establish a new base of supply.

Thirdly, From Marololo the General's intention was to move forward by échelons, each échelon taking the lead in turn and advancing by successive *bonds* (leaps). He considered that the Brigade of the Advanced Guard (4 to 7 battalions) on leaving Marololo should be employed in opening a cart road, and attain in one *bond* the outer heights of the healthy plateaux; where it would be joined by the 2nd échelon, formed by the main convoy escorted by the 2nd Brigade, which in its turn would take the head as soon as the food supply was assured; and thus by a succession of moves in advance (*bond en bond*), the mobile elements of the Expedition would, within a certain periods (says six weeks), *i.e.*, early in August, reach the northern limit of Imerina.

Fourthly,[1] Beyond this point, all would depend on the movements of the enemy, which General Duchesne would try, above all, to pursue either to Antananarivo, or towards any other position it might take up on the flank of his line of march. All isolated action on the part of the Navy or garrisons on the coast was to be strictly abstained from. This original conception of the marching (*en tiroir*) in alternate changes of front[2] was carried out, under the protection of the Advanced Guard as far as Andriba; beyond which point the Advanced Guard itself, sub-divided in échelons, became the main body, and was advanced in the same way.

[1] In General Duchesne's special directions for moving forward by successive échelons, he says:—"In the actual state of the country, the first condition under which a march to the front can be carried out with rapidity and safety, is that of lightness; having only a reduced transport, on pack-mules, which ought not to be stopped by any natural obstacle. This front échelon must act quickly and boldly, but whilst avoiding attack on any serious obstacles or delaying there; if it meets them, it will mask or try to outflank them. . . . In case when offensive movement ceases to be possible, the head of the column will halt in a defensive position, within reach of water, and there await, in sufficient security, the reinforcements which the following échelon will always be able to furnish in a few marches. One obligation alone is imperative, never to budge an inch. With such enemies as the Malagasy, danger only becomes serious at the moment of retreat."

[2] *Défiler en tiroir*=to change front when in column, by the march of divisions through each other from the rear.

VI.—Construction of the Road—Organisation of the Communication with the Rear and Supply Service.

The construction of a road practicable for the Lefebvre carts was the principal difficulty. From the 7th March, 1895, General Metzinger reported that the penetration of the route by land across the marshes surrounding Majunga could hardly be accomplished without the aid of native pioneers. These difficulties, unfortunately, were not confined to the littoral zone.

Between Majunga and Suberbieville, the wide plain, where the Betsiboka channel winds, encumbered with islets, sand banks and reefs, is covered with thick tropical vegetation, and frequently barred by basaltic outcrops from 300 to 600 feet where the pick cannot be used. The track of the ordinary path, which was adopted as being the best, crosses three large streams—that of Marovoay (250 feet wide at high water), the Kamoro (100 yards), and the Betsiboka (of 450 yards).

The native pioneers required not being obtainable,[1] it became necessary to have recourse to military labour. The companies of Engineers, at first almost alone, devoted themselves to this work with a zeal and energy which cost them dearly by a terrible reduction of their numbers; and, when the arrival of the troops permitted, the Engineer companies, almost decimated, and employed in bridging, were assisted by men of the various battalions.

The delay in mounting the river boats made it necessary to utilise the track by land for the supply of the Advanced Guard as far as Marololo; and the Engineers, almost alone, had to open the road from Majunga to Marovoay, and to throw bridges across the Marovoay, the Kamaro, and the Betsiboka; and to co-operate with the battalions of the 200th, 13th, and Colonial regiments to construct the portion between Marovoay and the confluence of the Betsiboka and Ikopa. The road from Marololo (65·6 feet) to Andjiéjié (1,640 feet), a distance of 50 miles, was the work of three battalions (Algerians, Foreign Legion, and the 40th Chasseurs); the last part, to Andriba (2,624 feet), a distance of 31 miles, was constructed by the battalions of the 1st and 2nd Brigades echelonned along the track at every two kilomètres, to permit simultaneous work.

This hard labour had to be persevered in past the halting stations of Tsarasaotra, Beritzoka, the Ponceau, the Springs of Andjiéjié, Antsiafabositra, level 750 (2,460 feet), the Cascade, etc., until on the 6th September the hamlet of Mangasoavina was reached, at the south extremity of the Andriba plain, from which point the Light Column started on the 14th September.

The service of the posts of communication included a director,

[1] The Sakalava Chiefs, who had promised to send men, could not or would not furnish more than 400 at most; whilst an epidemic of cholera in Indo-China prevented the despatch of 2,000 coolies promised by the Government of Cochin-China.

Colonel Bailloud, and eight officers of each branch of the Army and departments, with troops drawn from each corps.[1]

The commissariat supply (besides that carried by water to Marololo) was effected by 24 échelons; each échelon furnished by the companies of the Commissariat Transport train, and including 150 Lefebvre carts.[2]

On the river line the posts were fixed at Ankaboka, Marovoay, Ambato, and Marololo. Two battalions (from 1st and 2nd Brigades) were detailed for service on the line of communications, detachments of one or two companies being posted at the halt stations from Majunga and Marololo. By this means it was possible to transport to Marololo 2,000 tons of provisions within a month, whilst a quantity of material was actually conveyed by land from Ambato to Marololo.

Later a redistribution of these commissariat échelons became necessary, and certain numbers of mules[3] and carts, told off for the service of the halting posts, the bases, the field hospitals, the ambulances, etc., became available for general service, so that four complementary échelons of supply were formed.

From the 14th July, in advance of Suberbieville (the transport for the Advanced Guard consisting solely of pack mules) a reduction of scale of rations was made, and the supply of the expedition was kept up by carts until the arrival of the Army at Andriba, reached by the Advanced Guard on the 22nd August, where the other troops and stores were concentrated until the 12th September, when the Light Column was organised and another reduction of the scale of rations effected.[4]

[1] The *personnel* of this service along the line of communication included 67 officers, 390 N.C.O.'s and men, 322 native auxiliaries, in addition to 4 battalions of infantry, distributed as follows:—From the passage of the Betsiboka, 18th to 23rd July by the main body, the 1st and 2nd Battalions of the 200th Regiment (1st Brigade); 2nd Battalion 13th Regiment Marine Infantry; and Battalion of Réunion Volunteers (2nd Brigade). At the time of the concentration preliminary to the march of the Light Column and the constitution of the terminus station of the line of communication at Mangasoavina, a 5th Battalion was added, the 40th Battalion Chasseurs, whose general state of health did not permit it to co-operate in the last active operations.

[2] These carts were supposed to carry 200 kilogrammes (440 lbs.); so each échelon represented transport of 30 tons.

[3] 564 mules; 430 Abyssinian mules untrained for draught were sent to Advanced Guard in exchange for similar number of French and Algerian mules which could be utilised for draught by the Transport Train.

[4] The reduced ration for troops and native drivers of the Light Column, in addition to slightly increased quantities of sugar, coffee, tafia, grease, salt, and vegetables, was composed of 400 grammes (12⅔ oz.), bread (*pain de guerre*) 500 grammes (1 lb.) fresh meat; or one-third ration of preserved meat for Europeans. For Kabyles, 300 grammes (9⅗ oz.) bread (*pain de guerre*), 100 grammes (3⅕ oz.) rice, 300 grammes (9⅗ oz.) fresh meat, or one-sixth ration of preserved meat. For Black soldiers and drivers 700 grammes (1⅘ lb.) rice and 250 grammes (½ lb.) fresh meat, or one-sixth ration, preserved meat.

In the end, thanks to the provision of a herd of cattle of 500 head, driven after the main body, and 50 head attached to each battalion, on leaving Andriba, the Light Column never wanted for fresh meat, and the reserve of preserved meat reached Antananarivo untouched.

VII.—Operations of Expeditionary Corps.

The operations of the Expeditionary Corps are divisible into six distinct periods:—

1. *Maritime Operations* (occupation of principal points on coast), 11th December, 1894—1st March, 1895.
2. *Operations of Advanced Guard* (before arrival of main body), 1st March—17th May.
3. *Operations of Expeditionary Corps* (until bridging of the Betsiboka), 17th May—14th July.
4. *Operations of Expeditionary Corps* (to departure of Light Column), 14th July—14th September.
5. *March of Light Column*, 14th September—30th September.
6. *Occupation of Antananarivo* (and repression of insurrectional movements), 1st October—18th January, 1896.

1. *Maritime Operations.*

A. Occupation of Tamatave.—A "state of war" being notified to Commodore Bienaimé on 11th December, 1894, on 12th he landed three companies of infantry and a group of artillery,[1] under Lieut.-Colonel Giovellina, occupied Tamatave without opposition and proclaimed a state of siege. The Hovas retired to entrenchments behind the line of the Ranomainty. The neck of the peninsula was defended by a double line of palisades and barbed iron wire, behind which three block houses were constructed, armed with one 5½-inch sea-service gun and three machine guns of 1·45-inch.

A strictly defensive attitude was maintained, excepting an occasional shelling of the centre work in Hova lines at Manjakandrianambona and a few desultory reconnaissances made to keep the enemy in uncertainty as to ulterior projects.

Garrison was reinforced on 27th January by 200 men from France and Réunion, and again on 27th February by one company, raising the effective to 800 infantry and 75 artillery.

B. Defence of Diego-Suarez.—On rupture of negotiations the Hovas entered territory of Diego-Suarez at various points, and on December 22nd, 1894, several buildings were burnt and an attack on the French post at Mahatsinjo was repulsed. A state of siege was declared on the 24th, and Lieut.-Colonel Piel placed Antsirane in a state of defence. (Strength of garrison, four companies Marine Infantry, 2nd Company *Disciplinaires*, and detachment of artillery). On 19th February, 1895, the Hova work (known as Point VI.) was captured. On 14th April Commandant Martin, with battalion of Réunion Volunteers and Malagasy Tirailleurs, attacked by night the principal Hova position of Ambohimarina, which was evacuated forthwith by the enemy.

C. Occupation of Ambodimadiro.—On the 12th February, Ambodimadiro, in Passandava Bay, was occupied by the naval commandant: a

[1] 13 officers and 475 men, infantry; 4 officers, 62 men, artillery with 8 guns (3·14-inch) (6 mountain, 2 field).

movement which held in check all the Hova posts on N.W. coast opposite Nossi-Bé.

D. Occupation of Majunga.—Majunga, the proposed base of operations, was bombarded on the 14th January, and occupied by the naval division, without opposition, on the 15th. On the 16th, the "Rance" and "Romanche" disembarked two companies Marine Infantry, with one section of artillery under Commandant Belin from Diego-Suarez.

From 23rd January, continued reconnaissances were executed by land and water, preparatory to the landing of the expedition. On 17th February an offensive reconnaissance dislodged the Hovas from Marohogo, 13½ miles beyond Majunga.

E. General situation at the time of landing of the Advanced Guard.—By the 1st of March the French held the enemy in check in Diego-Suarez and in Passandava Bay; and simultaneously threatened the Hovas, both at Majunga and Tamatave, on the road of Marovoay and in the lines of Farafatra; thus keeping them uncertain as to the real base of operations.

2. *Operations of the Advanced Guard. 1st March—6th May*, 1895.

General Metzinger disembarked with the Advanced Guard on the 1st March, 1895. His instructions were:—Firstly, to construct the necessary works for establishment of the maritime base and for disembarkation of the *matériel;* secondly, to disengage the banks of Bembatoka Bay and the Betsiboka from the enemy, in readiness for the advance of the expeditionary column.

From 1st March to 24th the troops discharged *matériel* for construction of huts and roads—a work rendered difficult by want of native labourers and by the rains.[1]

On 25th March active operations commenced.[2] The points occupied by the Hovas on the Betsiboka consisted of:—Firstly, a battery on the left bank in front of Mahabo; secondly, the village of Marovoay, on the right bank, whose fortifications had been repaired and armed with modern guns, and covered Nossi-Piha, an entrenched camp, occupied by 3,000 men near Miadana, the locality of which was not exactly known.

The occupation of Mahabo would assure the security of the Lower

[1] General Metzinger brought with him in the "Shamrock" 3rd Battalion Algerian Regiment with *personnel* and *matériel* of Field Hospital. In the "Notre Dame de Salut" arrived, 7th March, 15th Mountain Battery; Half 11th Company Engineers; Detachment of 30th Squadron of Transport and *personnel* of Departments Advanced Guard.

[2] Combatant troops at disposal of General Metzinger:—

1. 3rd Battalion Algerian Regiment.
2. Staff and 3rd and 4th Companies Battalion Marine Infantry of Diego-Suarez.
3. Battalion of Malagasy Tirailleurs (1st and 3rd Companies disembarked at Majunga 28th March).
4. 15th Mountain Battery.
5. Section Marine Artillery.
6. Half-company Engineers.
7. Detachment Mule Train.

Betsiboka and influence the Sakalava tribes, besides threatening the communications of the Hova camps on the right bank.

A. Occupation of Mahabo (25th March).—The gun-boat "Gabès," previously moored within range of Mahabo and Marovoay, silenced the fire of the first and bombarded the second without decisive results. Under cover of this fire a column under Captain Rabaud[1] landed at Ankaboka. After reconnoitring the neighbourhood on the 26th, on the 27th the Hova post was captured; when the Sakalavas joined the French against the Hovas.

B. Occupation of Miadana.—The principal column concentrated, on the 26th March,[2] at Marohogo, under Commandant Belin. Owing to difficulties of the way, for passage of guns and construction of a mule-track across the ridge of Ambodinabatekely, the column reached Mevarano on the 30th, which General Metzinger had occupied on the 29th. On the 30th, reconnaissance was made, and a halt for rest on the 31st.

1st April the column[3] left Mevarano, supported by the gun-boat "Lynx," following the eastern channel of the Betsiboka estuary, and reached Antanalamanaco on the 3rd April. Leaving baggage here, three companies, with a section of artillery, marched on the Hovas in Miadana, and took that village. An advance on the entrenched camp of Nossi-Piha was commenced, but the inundations, increased by severe storms, prevented further operations, and the column fell back on camp at Mevarano on the 4th April.

The Algerian Regiment was next directed on Mahabo to carry out reconnaissances along the left bank of the Betsiboka, from Point Katsépé to Madirvala, 25 miles to the south (6th to 29th April). Reinforcements continued arriving at Majunga.[4]

C. Capture of Marovoay.—The Hovas had evacuated the camp of Nossi-Piha, falling back on a line of hills—occupied by several villages, from Marovoay to Amparilava—along a front extending six miles, with extensive rice-grounds and marshes behind, separating this ridge from the basaltic plateau of Ankarafantsika.

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[1] The 10th Company and 1st *peloton* of 11th Company of Algerian Regiment; section of 15th Mountain Battery, and detachment of engineers.

[2] Three companies infantry (2nd Company Malagasy Battalion, 4th Company Marine Infantry, 9th Company Algerian Regiment); section of 15th Mountain Battery; section of Marine Artillery, and detachment of engineers.

[3] 12th Company and staff of 3rd Battalion Algerian Regiment and Mule Train. Total column contained 29 officers, 738 rank and file, 108 horses and mules.

[4] The first three steamers freighted for the transport of the main body of the expedition disembarked at Majunga, 23rd-25th April: Staff and 2nd Battalion Algerian Regiment; 13th Company Engineers, with 28 horses and 73 mules; 1st Company Commissariat Transport; 182 conductors auxiliary (Kabyles), with 4 horses and 413 mules; and 6th Company ditto, of 500 conductors (Sénégalais).

Three columns were formed[1]:—*The left* directed on Amparilava and the right of the Hova position, under Lieut.-Colonel Pardes. *The centre*, under Commodore Bienaimé, along the Betsiboka to the mouth of the Marovoay river, thence up to Mahatzingo and Marovoay. *The right*, under Captain Delbousquet, directed on Ambohibary and the enemy's rear. The converging march of the three columns was fixed for the 2nd May.

Operations of the Left Column.—On the 30th April this column occupied the camp of Nossi-Piha, burnt by the enemy, and halted at Miadana. The passage of the Andranolava was effected on the 1st May; the column bivouacked on the left bank. On the 2nd May Lieut.-Colonel Pardes came in contact with a small body of Hovas with a Hotchkiss gun at Ambohimanga, and drove the enemy back on the villages of Antanimor and Amparilava, east of Marovoay, the principal line of resistance. Lieut.-Colonel Pardes was now ordered to march on Amparilava to the left, supported by Lieut.-Colonel Pognard in the centre, the reserve moving on the village of Antanimor. The convoy in rear, with escort of Algerian Tirailleurs. The enemy broke and fled across the rice-fields. Whilst Pardes pursued the flying Hovas, Pognard's column entered Marovoay, and the left column bivouacked at Amparilava.

Operations of the Centre Column.—On the 1st May the "Primauguet," the "Rance," and the "Lynx," covered, up stream, by the "Gabès," moored at 3 miles from Marovoay, ascended the river as far as navigable. The landing parties, in fourteen boats, were divided into four groups. On the 2nd May the Algerian Tirailleurs landed at the mouth of the Marovoay river and marched on Mahatsinjo, whilst the first three groups of the flotilla ascended the Marovoay river and answered the fire from a battery west of Mahatsinjo, which was soon silenced. The entrenchments of Marovoay were found abandoned, and the sailors entered the *Rova*[2] and hoisted the French flag.

Operations of the Right Column.—Delbousquet's company, being taken across from the left to the right bank of the Betsiboka by the boats of the "Gabès," passed through the village of Ambalamanga, and marched on Ambohibary, where some volleys were fired at the fugitives from Marovoay. The company returned to Ankaboka.

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[1]
- **Left Column under Direct Orders of General Metzinger**
  - Lieut.-Col. Pardes' Staff and 3 Companies Battalion Malagasy Tirailleurs; 4 Companies Marine Infantry of Diego-Suarez; ½-section Artillery Marines
  - Lieut.-Col. Pognard's Staff and 3 Companies Algerian Regiment; 2 Sections 15th Battery; 13th Company Engineers
- **Centre Column of Commodore Bienaimé**
  - 135 Naval Squadron; 9th Company Algerian Regiment; 3 Boat-guns: 2·55 inches.
- **Right Column under Captain Delbousquet**
  - 11th Company Algerian Regiment.

[2] The Government House.

These operations cost the French[1] 1 Algerian Tirailleur killed, 4 Malagasy Tirailleurs wounded; and assured to General Metzinger the definite possession of the important position of Marovoay and the estuary of the Betsiboka. Nevertheless, a strong body of Hovas, 2,000 men, remained entrenched near Ambodimonti, 7½ miles S.E. of Marovoay. Colonel Pardes' column established itself at Manounga, 6 miles east of Marovoay, to watch the enemy's movements; and the 13th Company Engineers constructed a flying bridge with native canoes across the Marovoay river. On 13th May Colonel Oudri crossed with 3 companies 1st Battalion Algerian Regiment, and 15th Battery 38th Regiment. On 15th May Lieut.-Coloned Pardes[2] moved to the front to reconnoitre the approach to Ambodimonti and the Tamarin ford. At 1½ miles from Manounga he encountered a Hova column on the march, which he drove back; the Hovas leaving 1 B.L. gun, ammunition, and 60 killed. Of the French, 1 officer and 11 tirailleurs were wounded.

On the 16th May Lieut.-Colonel Pardes awaited the approach of Colonel Oudri's column, delayed by the difficulty of the road; but, learning that the Hovas were in full retreat, on the 17th he occupied the abandoned entrenched works of the Hovas at Ambodimonti, taking possession of large stores of ammunition for Krupp, Hotchkiss, and Gardner guns. The same day he was joined by Colonel Oudri's column. By these operations[3] the course of the Betsiboka as far as Ankaboka-Marolambo, and all the right bank of the river up to Androta were freed from the Hova troops. The Advanced Guard had thus well caried out the mission entrusted to it.

The Commander-in-Chief disembarked at Majunga on the 6th May, and came to inspect the positions at the front on the 16th. By the 18th all dispositions were settled and instructions issued for the forward movement of the Advanced Guard, and measures taken to regulate the movements of the main body, the greater part of which would be disembarked by the end of May.

The objective now assigned to the Advanced Guard was the occupation of the Mevatanana-Suberbieville position, near which it was determined to establish the river base, *i.e.*, the terminus of the supply by water and the point of departure for the land transport.

3. *Operations until the Bridging of the Betsiboka* (*19th May—14th July*, 1895).

The results of the fighting at Marovoay and Ambodimonti so far established a moral superiority over the Hovas, that they never again

[1] The Hovas left in the hands of the French :—18 old S.B. guns at Marovoay; 2 S.B. guns and 1 machine gun at Amparilava; 10,000 cartridges, 2.000 shells, 5 Hotchkiss carriages and equipments, with a quantity of loose powder.

Ramazombazaha, Governor of Boeni, who commanded the defence, barely escaped; leaving his official insignia, clothes, and correspondence.

[2] Lieut.-Colonel Pardes' column consisted of:—Staff and 2 companies and a half Malagasy Regiment, 5th Company Algerian Regiment; in all, 13 officers, 434 rifles.

[3] For conduct of these operations Lieut.-Colonel Pardes, of the Colonial Regiment, was mentioned in General Orders.

attempted any serious opposition to the march of the French troops. Thus they abandoned without offering resistance the important position of Trabonjy - Mahatombo, as soon as they perceived the head of Metzinger's column, on the 22nd May. A light detachment[1] was sent in pursuit, but was unable to come up with the Hovas before night. The 40th Battalion of Chasseurs reached the village of Ambato on the 23rd May.

The four battalions which henceforth constituted the Advanced Guard[2] concentrated at Ambato on the 26th. Their supplies were furnished by 300 pack mules of the 1st Company Commissariat train and by the "Boeni" with two steam launches, which with difficulty towed a lighter of provisions.

During the 26th, 27th, 28th the troops of Advanced Guard crossed in succession (by means of the aforesaid lighter) the stream of the Kamoro, and on the 30th the column was re-united at 18½ miles south of Ambato on the right bank of the Betsiboka. After reconnaissances and clearing the way on 30th and 31st, General Metzinger brought his column to the point known as the *Hauteurs-Dénudées* (Bare Heights), 5 miles to the north of the point where it was intended to cross the great river. This march was flanked by the gun-boat "Infernale," which ascended the river parallel with the column, towing a lighter of provisions. From the 2nd to the 5th June the right bank of the Betsiboka from the confluence to Amparihibé was carefully reconnoitred to determine the point of passage and ascertain dispositions of the Hovas.[3] A few shots were exchanged, and General Metzinger arrived in the gun-boat "Brave." The ford across the river—here 500 yards wide—was reported difficult and unsafe. On the 6th a section of Algerian Tirailleurs crossed and ascended the left bank of river (Ikopa) opposite confluence, whilst the 15th Battery and three companies of Algerians opened fire on the Hova position, supported by fire from the gun-boat "Brave." This convergent fire caused the Hovas to retire almost immediately; when the crossing at the ford, assisted by the lighter (brought by the "Brave"), was successfully effected.

On the 7th the leading column of the 1st Brigade[4] crossed and pushed forward briskly to Marololo on the Ikopa river, the terminus of

[1] The mounted company of the Algerian Regiment and one gun of the 15th Battery.

[2] 2 battalions Algerian Regiment, 1 battalion 40th Chasseurs, 1 battalion Malagasy Tirailleurs.

[3] Two tirailleurs wounded.

[4] This column consisted of 40th Chasseurs, staff of 1st Group Artillery (15th and 16th Batteries), staff of 1st Brigade, detachment Chasseurs d'Afrique, 2nd Bn. Algerian Regiment and Commissariat Transport.

The remainder of the 1st Brigade was posted, echelonned as follows along the line of communications, viz. :—Staff and 2 companies 3rd Bn. Algerian Regiment at the Camp of *Hauteurs-Dénudées*, 2 companies ditto at Ambato, 3rd Battalion and Staff of the 200th Regiment at Marovoay, 2 companies 2nd Battalion 200th Regiment at Ankaboka, the other company of 200th Regiment and 1st Battalion ditto between Marovoay and Ambato.

the navigable water-way during the dry season. Here two companies were left, and the column moved on to Mourarivo.

On the 8th a difficult march led the column to Beratsimanana, meeting with and turning easily various entrenchments and batteries erected by the Hovas to command the track. All these works were abandoned precipitately by the Hovas as soon as their flanks were threatened.

On the 9th a forward movement was made. At the outlet of a narrow defile a short distance beyond Beratsimanana the General made his dispositions for the attack on the position of Mevatanana. The village and fortified *Rova* of Mevatanana stand on a plateau rising 300 feet in an angle formed by the valleys of the Nandrojia and the Ikopa. All this plateau was entrenched with shelter and rifle pits, and only accessible by two paths each commanded by a battery N. and S.

The 2nd Battalion Algerian Regiment advanced by the heights on the right bank of the Nandrojia on to a wooded plateau on the left bank at 2,000 yards from the south battery, supported by the fire of the 15th and 16th Batteries which were posted at 3,500 yards. Simultaneously the Chasseurs 40th Battalion, fording the Nandrojia, marched on the crests of the left bank of that river. As soon as the Algerians had gained the wooded plateau the two batteries took up their position there and shelled the N. and S. batteries of the Hovas. As soon as the range was ascertained, a few mélinite projectiles produced an extraordinary moral effect on the Hovas, who fled to the south before the 2nd Algerians could cut off their retreat. The 40th Chasseurs and a Company of 1st Algerians then occupied the defences of Mevatanana.[1]

The commissariat transport train, which had halted outside the defile south of Beratsimanana, was now able to continue its way, and the column entered Suberbieville.[2] The escort of the train was in time to save the greater portion of the buildings from being burnt by the retreating Hovas.

On the 10th a detachment reconnoitred the hilly region overlooking Suberbieville to the south, towards Bezatrana and Behanana to gain touch with the enemy, and to bring in oxen, as meat had been scarce since

[1] The Advanced Guard found in Mevatanana 2 Hotchkiss guns of 3-inch (1892 pattern), 1 ditto 1·85-inch (1885), 2 small brass guns on wooden carriages, numerous cases of ammunition, artillery and small arm, a small amount of dynamite, some barrels of powder, and over 200 Snider rifles.

[2] Suberbieville, situated on a plain of about 1 square mile in extent, close underneath the height of Mevatanana and 1½ miles from the right bank of the Ikopa, is neither a town nor a village. It is a conglomeration of 12 or 15 large barracks with ground floor only built in stone, serving as dwellings and storehouses, spread over half a square mile. In the centre is a villa of one upper storey in timber for the proprietor, near which is a forge. An artificial canal unites the forge with the Ikopa. A tram-line *(Decauville)* of 3 miles in length, partly destroyed by the Hovas, runs by the side of the canal, crosses Suberbieville and the native village of Rangomanasiaka, built for the black labourers of the works, and continues to the S.E., towards a massive quartz reef. To the W. and N.W. of Suberbieville are two marshes, watered by the Ikopa, which are never entirely dry.

crossing the Betsiboka. A Hova post was dislodged from Bezatrana leaving 2 killed, 2 wounded, and 2 prisoners. The Advanced Guard halted at Suberbieville[1] on the line to Marololo from 10th to 17th June whilst the organisation of cantonments proceeded, and a cart road was constructed from the confluence of the rivers, Marololo being established as the river base of operations. On the 18th June a detachment under Commandant Lentonnet was directed on Tsarasotra[2] (15 miles south) which was found evacuated by the Hova rear guard on the 19th and occupied by one company Algerians, a section of 16 Mountain Battery, and half a troop of Chasseurs d'Afrique. Two companies of Algerians remained to keep up communication at Behanana. The 200th Regiment remained at Marovoay, and all the remainder of the 1st Brigade was echelonned between Marololo and Suberbieville (on account of the difficulties of supply) to open up the road. General Duchesne's Headquarters were established at Suberbieville from the 17th June, together with Field Ambulance No. 1, the only hospital unit which had been able to accompany the Advanced Guard.

Dispositions were now taken :—Firstly, to constitute the posts along the line of communications, and the charge of the districts comprised in the zone of operations in rear of the advance ; secondly, to organise the convoys of supplies by land and water between Majunga and Suberbieville ; thirdly, to concentrate the troops between Marololo and Suberbieville and beyond, for the construction of the roadway, and the further advance on Antananarivo.

On the 24th June a reconnaissance pushed on to Mount Beritzoka ($6\frac{1}{2}$ miles S.E. of Tsarasotra) found no traces of the enemy, whose main body, according to native information, occupied ground about Ampasiria. On the evening of the 28th an outpost of the camp at Tsarasotra was threatened by a body of Hovas, which retired after exchanging shots. At daybreak on the 29th strong bodies of Hovas attacked this camp, which they tried to surround.[3] Smart counter-attacks under Captain Aubé and Lieutenant Kacy soon drove off the enemy, which, however, was commencing to resume the offensive, when the arrival of the two fresh companies from Behanana ensured the repulse of the Hovas as far as the sources of the Nandrojia ;[4] when the main body of the Hova Army appeared to camp on the plateau of Mount Beritzoka, and Captain Lentonnet's troops re-entered Tsarasotra.

[1] During the first eight days following the occupation of Suberbieville the officers and men were all put on half rations. Fresh meat was wanting and the only supply was obtained by catching a few oxen escaped from the herds driven off by the Hovas.

[2] Tsarasotra, altitude of 885 feet, is situate on an isolated mamelon, a little distance from the river, commanded on the east by a series of heights which reach contour levels of 1,050 and 1,640 feet in succession.

[3] During this affair the French lost at the beginning of the fight, 1 officer (Lieutenant Augey-Dufresse), 1 corporal killed, 1 sergeant, 4 tirailleurs, and 1 gunner wounded.

[4] 200 men at least were killed, wounded, and missing, according to account of prisoners.

During this time General Metzinger, who had reached Behanana, on learning of the attack, sent back to Suberbieville, where General Duchesne, at 12.40 a.m., started off the 40th Chasseurs and two remaining sections of 16th Mountain Battery to the front. After a halt of two hours at sunset at Behanana, the three companies of Chasseurs reached Tsarasotra at 11 p.m., where the artillery, with General Metzinger, had arrived an hour previously. General Metzinger resolved to attack the enemy without delay.[1]

On the 30th, at 6 a.m. the column left camp under General Metzinger, and reached the outpost (on contour 1,050 feet), *la cote* 320, held by the 7th Company Algerians. The Hovas now seemed retiring on the crests of the mountains, and, in spite of the difficulties of the ground, a general advance was ordered; the Advanced Guard crossed the Nandrojia, and the Hovas opened fire with artillery and rifles from under cover, causing a few casualties, but not retarding the advance of the attacking columns which did not reply, until the mountain guns took up their position, and coming into action at 2,500 yards range, soon silenced the Hova artillery. The 40th Chasseurs and Algerian Tirailleurs advanced until within 200 yards of the enemy's skirmishers, when they poured in a few volleys, which at once caused the Malagasy to retreat hurriedly, upon which they rushed the ridge of the plateau and charged the Hovas, who, after a brief attempt at resistance, turned and fled precipitately.[2]

[1] This resolution, extremely judicious and soldier-like, which does honour to General Metzinger, was inspired by the following considerations:—Did the enemy, his attack having failed, intend to retreat, it was necessary to hasten the movement in order to reach him; or should he count on installing himself on the Beritzoka, it was equally important not to give him time to entrench himself on that position, naturally so strong. In the one case, as in the other, it was the correct thing to act promptly. Moreover, it seemed advantageous to prove to the Hovas that the French would not allow themselves to be surprised, and that any attack on their part would be immediately replied to by a vigorous counter-attack. From information furnished by the prisoners, the Hovas were commanded by Rainianzalahay, 14th Honour, recently appointed to the chief command, but who had kept on, as his lieutenants, Ramazombazaha (the former commandant) and Rafarlahibohana. Having come down from the highlands, these troops had concentrated at Malatsy with four quick-firing guns. Their effective strength was about 5,000 men. The entire column had re-united on the 28th at Antanimbarindratsotsoraka; at nightfall 1,200 men had proceeded, some on the bank of the Ikopa, the others on the plateau to east of Tsarasotra. It was this last group of which a portion had encountered the French outposts on the evening of the 28th. The objective of the Hovas was to gain possession of the camp at Tsarasotra, which they thought to be weakly defended, and to march on Mevatanana-Suberbieville, so as to surround the French Advanced Guard, making use of, for that purpose, the path along the Ikopa, the direct track and the upper valley of the Nandrojia.

[2] The enemy abandoned in the two camps, 450 tents, the commander-in-chief's flag, 2 Hotchkiss guns complete, 2 spare Hotchkiss carriages, quantities of artillery ammunition, rifles, all the correspondence of the commander, a considerable quantity of rice and provisions of various kinds. The enemy's losses in killed and wounded must have been great, but they could not be ascertained even approximately. On the French side 1 officer wounded (Lieutenant Audierne), 1 officer contused (Captain de Bouvier)—both of the 40th Chasseurs; 8 rank and file wounded—chasseurs and tirailleurs.

By great exertions one section of the mountain guns reached the plateau and opened fire on the enemy's columns, which were reforming in the valley beyond, at 3,000 yards.

The success in these two days' fighting was most important—less in consequence of the numerical losses of the Hovas and of the immediate results obtained, than because it disorganised for a long time the means of defence of the Malagasy and threw them back to the plain of Andriba, more than 50 miles south of Suberbieville.

Henceforth the installation of the river base, the starting-point of the transport by carts, the establishment of stores of provisions, and the works of construction of the cart road, could be carried on without any fear of attack either in front or on the flanks of the line of communications, and could be pushed forward with activity.

Until the 9th of June, when Mevatanana was taken, all efforts had been directed towards the rapid movement of the Advanced Guard in order to obtain the possession of the navigable waterway, and every other consideration had been sacrificed to provision General Metzinger's troops in front, while the main body had only been able to push on its units, echelonned between Majunga and Marovoay, as the road become available for the carts. The works along this roadway which were undertaken from the 13th March by the 11th Company of Engineers, assisted by 90 coolies and some Malagasy Tirailleurs, could not be pushed on rapidly in consequence of the climate, the insecurity of the country, and the insufficiency of the labourers. It was not until May that the arrival of the 13th and 14th Companies Engineers, of the Sénégalais, and of the 6th Company (*bis*) of the commissariat transport (train) permitted the completion of the road from Majunga to Marovoay (50 miles) and the bridge over the Marovoay river, by the 7th June. At the same time, a double line of telegraph, optic and electric,[1] connected Marovoay with the maritime base.

From the 8th June, when communication by carts was opened between Majunga and the bridge over the Marovoay, the Malagasy Battalion, which had occupied the posts captured on the 2nd and 17th May, was pushed across to the heights of Ankarafantsika to continue the road-making under the 11th Company Engineers, and by 28th June this road was practicable for carts as far as Ambato.

The main body of the Expedition was now moved forward and was

[1] In spite of the ample provision of telegraph *matériel* with which the Expeditionary Force was provided, this service did not give satisfactory results during the campaign. The establishment of the line from Majunga to Mont Beritzoka, where it stopped, was long and difficult, and it was hardly employed. The *personnel* of skilled telegraphists was insufficient; the insulators did not stand the hot, damp climate; the bamboo rods were too light, and overturned by the pack mules and herds of oxen. The native drivers, also, used the bamboo poles to repair the shafts of the carts; whilst the native Sakalavas raided the line to obtain the copper wire. Bush fires also destroyed many miles of telegraph. The optic telegraph was, however, successfully employed throughout the route to Antananarivo. [See *Revue du Génie Militaire*, Janvr., Fév., Mars, Avril, Mai, 1897.]

concentrated at Ambato, by the 9th July, excepting those troops detailed for service on the line of communication.

It now became apparent that the Engineers, with the assistance of the few black labourers obtainable, could not carry out the works along the road; consequently, General Voyron was obliged to spread his troops between Ambato and the confluence of the Betsiboka, so that they could set to work at several points on the construction of the road. Those troops who could not be reached by the road had to be supplied by way of the river, alongside the route. These works were vigorously carried on until the 17th July, by which date the 2nd Brigade was concentrated in camp at *Hauteurs-Dénudées*, ready to cross the Betsiboka on the bridge which the 13th Company of Engineers had constructed by the 14th June. Meantime the 1st Brigade had completed the road to Tsarasotra.

Majunga was now connected by roadway with the advanced position at Beritzoka, a distance of 155 miles; whilst Marololo could be victualled by land and by water, and it became possible to accumulate there the necessary provisions for the ulterior march forward. The secondary base of communications was thus established, all the mobile elements of the Expeditionary Corps were here stationed, and the resumption of the forward march was forthwith ordered.

4. *Operations until the departure of the Light Column* (*14th July—14th September*, 1895.)

The nature of the ground over which the Expeditionary Corps was to operate during the fourth phase of the campaign differed considerably from that already traversed along the lower course of the Betsiboka. Instead of wide, marshy plains, or long, wooded plateaux, bounded by wide, deep, and muddy rivers, south of Beritzoka nothing could be seen but a chaos of red clay hills, barred with precipitous rocky ridges, over which numerous torrents, broken by cascades, rolled in deep and rocky beds.

Travelling from Mevatanana southward, three principal lines of watershed are met with:—*Firstly*, the line of crests orientated nearly east and west, averaging an altitude of 1,600 feet, culminating in Mont Beritzoka, south of which is a hilly region, where the watersheds of the valleys formed by the tributaries of the Ikopa are almost indistinguishable from those of the Randriantoana, which flows into the Betsiboka; *Secondly*, the Randriantoana rises in the little Ambohimena Mountains, with an altitude of from 2,500 to 3,000 feet, which forms the second line, and separates the Randriantoana from the Kamolandy, an affluent of the Ikopa; *Thirdly*, the third line is that formed by Mont Andriba (4,000 feet) and by the Monts Hiandrereza and Ambohijavona, which are connected to Mont Andriba by a series of clay hills at an altitude of from 2,000 to 2,500 feet. It was on this third line that the Hovas, after their defeat at Beritzoka, had retired and accumulated their means of defence, leaving but a few advanced posts on the second line.

Great difficulty was found in tracing the cart-road over this country, which was commenced on the 15th July by the three battalions of

Algerians and the 40th Chasseurs beyond Tsarasotra. By the 31st July a new position was ready for traffic to half-way between Beritzoka and Andjiéjié, and the 2nd Brigade, passing the 1st Brigade (2nd August), reached Antsiafabositra, at the foot of the little Ambohimenas, where a few shots were exchanged with the Hova outposts. From the 4th to 16th August reconnaissances[1] of the 2nd Brigade, found numerous shelter-trenches and rifle-pits abandoned by the Hovas on the Ambohimenas; and on the 16th a reconnaissance towards Soavinadriana came in contact with the rear guard of the Hovas, which left nine killed on the field.

On 15th August the roadway carried up the steep slopes of the Ambohimenas had reached the contour level of 2,460 feet, but, at $1\frac{3}{4}$ miles beyond the first ridge, a depression of 500 feet was encountered, where the construction of the ramps required the excavation of 6,000 cubic metres. The two brigades were concentrated to do this work, which was accomplished in four days.[2]

On the 20th August the 2nd Brigade was pushed on to crown the summit of the Little Ambohimenas. It was now ascertained that the Hovas, under Rainianjalahay, occupied the third line, betweet Mont Andriba and Mont Hiandrereza, with a force of 5,000 men. The enemy had four works, armed with artillery, on the *col* (4,000 yards in length) to the east of Mont Andriba, two or three on the very summit, and three other works on the slopes of Mont Hiandrereza.

General Duchesne determined to attack immediately, and General Voyron's brigade[3] moved forward on the 21st August.

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[1] These reconnaissances were by a "brigade *de tracé*" (so called) consisting of Captains Pons and Digue, of the Engineers, assisted by Captain Aubé, Lieutenant Bénévent, of the Intelligence Brigade, and M. Haberer, ex-agent of the Suberbie Company.

[2] The 1st Brigade included 5 battalions (40th Chasseurs, 3 battalions of Algeria, 3rd Battalion 200th).

The 2nd Brigade included 4 battalions (1st and 3rd Battalions 13th Marine Regiment, Malagasy Battalion, and Haoussa Battalion of Colonial Regiment).

A half-squadron of cavalry (Captain Aubier) was attached to the head of the column.

The Artillery (8th, 9th, and 16th Mountain Batteries, 1 section 17th Field Battery, 1 mixed section of Ammunition Train); the Engineers (11th, 13th Companies), Ambulances (No. 1, No. 2), and Commissariat Train, were under direct orders of the Commander-in-Chief, and moved with one or other of the brigades as ordered.

The remaining troops of the Expeditionary Corps were echelonned with the rest of the Commissariat transport along the line of posts (*étapes*), in order to ensure the communications with the rear.

[3] The troops under General Voyron included, besides his four battalions of Infantry, 9th Mountain Battery of Marine, one half troop of Cavalry, 13th Company Engineers, and one section Ambulance. The reserve with General Duchesne consisted of 1st Battalion Algerians, 8th Mountain Battery of Marine, and a section of 17th Field Battery. In spite of the greatest efforts, this section Field Battery could not follow the movements over such country, and was sent to the rear on the 21st August.

A mule path had been opened to facilitate the descent from the abrupt cliffs of the Ambohimenas into the valley of the Kamolandy, along which stream the brigade advanced in two columns, reaching the village of Ambodiamontana (under a sharp fire) which was captured, whilst an advanced party of the left column established itself in the village of Ambontona, 300 feet above, at 1¾ miles distant. Two or three shells from Hova works on the *col* were fired on the party at Ambontona, killing one tirailleur, wounding another, and fire was also opened from the more distant works without effect. The post at Ambontona was reinforced by two companies, and the 9th Battery on being sent forward was also fired at, the projectiles wounding three gunners. At 4.30 p.m. the 9th Battery opened fire, and two mélinite shells were exploded on the terre-plein of the principal work on the *col*, causing it to be evacuated. Fifty projectiles were fired by the battery against the Hova works, when General Duchesne ordered the firing to cease. The column bivouacked at Ambodiamontana, with the advanced party at Ambontana.

The night of the 21st—22nd was quiet; a few shots were fired before daybreak, when the Hova works appeared intact as on the previous evening, and General Duchesne proceeded with his reserve to Ambodiamontana, where the bulk of the 2nd Brigade was assembled. General Voyron was directed to move to the east with two battalions and four mountain guns, thereby outflanking the Hova works on Mount Hiandrereza, and then to turn the works on the *col*, so as to facilitate the front attack by the main body. General Duchesne, on reaching the front post in Ambontona at 8.25 a.m., at once suspected that the line of defence had been abandoned. A reconnoitring party sent to the nearest work on the *col* confirmed this supposition, and by 9 a.m. the total disappearance of the enemy was ascertained. General Voyron's troops continued their movement, whilst General Duchesne with the right column and reserve advanced to the south side of the *col*, as far as the place called the "Andriba Market."

The enemy on retiring had forced the inhabitants to abandon the numerous hamlets on the plain of Andriba and burnt most of the villages; nevertheless, in the *Silos*[1] large quantities of rice were discovered.

At 2 p.m. on the 22nd August the troops bivouacked, part on the north of the *col* and part to the south by Andriba Market. The Hovas had retired in disorder to about 20 miles south, out of sight of the column.[2]

The works of road-making, on which Metzinger's brigade had been employed during the march of the 2nd Brigade to Andriba, could now be resumed in all security by all the troops of the Expeditionary Corps,

[1] Subterranean rice-pits.

[2] All the Hova forts and camps met with during this march bore marks of precipitate abandonment.

The enemy had left everything except their rifles and artillery. But in one of the batteries on the Peak of Andriba a "cannon-revolver" (of 1·2-inch) without breech-piece, bronze carriage and ammunition for ditto, etc., were found.

under the protection of the Advanced Guard which was posted at Andriba Market, consisting of 2 battalions and 1 mountain battery.

On the 30th August this Advanced Guard was moved 2½ miles south to Mangasoavina on the banks of the Mamokomita. This place was more convenient for the concentration of the troops and stores preparatory to the formation of the Light Column, and became, henceforth, the terminus of the line of communication and the base for the supply of that column.

5. *Operations of the Light Column. Taking of Antananarivo (14th September—30th September*, 1895).

In consequence of the increasing difficulties met with in opening up the cart road and in regulating the convoys of supplies, from the 4th August General Duchesne had determined on forming a Light Column, followed by a convoy of pack mules,[1] to reach Imerina by uninterrupted marches of from 8½ to 9 miles *per diem*, and to be constituted by the 10th September, on the plain of Andriba. It was not until the 6th September that the road was rendered practicable for carts as far as Mangasoavina, the southernmost point of the plain, the base of supplies for the column, of which 250 tons were necessary for the march on Antananarivo.

The orders for the constitution of the column, the scale of rations and weights of baggage were published in general orders of the 3rd and 8th September. It was foreseen that the column would be forced to march in Indian file and would be frequently stopped by natural obstacles. In order to cover the march of the *impedimenta* and to allow the tail of the long line to reach the halting place before night it was necessary to sub-divide the column in three échelons or groups.[2]

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[1] The bases of the scale of rations and weights of baggage, so as to keep the amount of transport within the limits prescribed by the number of pack mules available (about 2,800) were laid down by General Duchesne on the 4th August. The Expeditionary Corps, on leaving France, was provided with 1,590 pack saddles for mules of which 1,000 formed part of the harness equipment of an equal number of Lefebvre carts, and 500 for light transport. On telegraphic demand of the General, 1,000 more pack saddles were sent, in July to Majunga, the 300 extra were "scratch" saddles, made up on the spot by the artillery artificers from packing cases and bale covers.

[2] See Table F. Effective strengths of the three groups on leaving Andriba.

On starting from the plain of Andriba, the Advanced Guard included the Headquarter Staff and General Metzinger's group (1st Brigade); the Main Body was formed of the group commanded by General Voyron (2nd Brigade); lastly, the Reserve commanded by Colonel de Lorme, composed of a battalion of the 200th (with regimental staff) and a mixed battalion of Marine Infantry.

Instructions, dated 10th September, fixed the normal order of marching, details of the organisation of the regimental transport and convoys, the march of the cattle, the service of distribution and correspondence, medical service, etc. They also fixed the conditions under which the mules, whose burdens had been consumed, should be sent to the rear.

Table F.

Groupes	Éléments	Officiers	Combattants	Conducteurs auxiliaires	Chevaux	Mulets
1. Avant-garde.						
Groupe du général Metzinger	Quartier général ...	18	37	33	40	33
	État-major de brigade	4	10	3	8	6
	Régiment d'Algérie ...	54	1,416	20	27	111
	Peloton de cavalerie...	1	9	1	11	2
	Artillerie (2 batteries)	10	98	83	10	134
	Génie (2 compagnies)	6	164	29	6	60
	Ambulance	3	9	20	3	14
	Convoi	5	20	127	11	255
	Total	101	1,763	316	116	615
2. Gros.						
Groupe du général Voyron	État-major de brigade	4	7	6	8	6
	Régiment mixte[1] ...	54	1,318	35	27	113
	Peloton de cavalerie...	1	12	1	14	2
	Batterie d'artillerie ...	3	46	29	3	49
	Ambulance	6	14	26	6	18
	Convoi général	24	67	873	58	1,546
	Total	92	1,464	970	116	1,734
3. Réserve.						
Groupe du colonel de Lorme	Régiments de marche et son convoi[2] ...	44	786	229	34	461
Total général de la colonne légère ...		237	4,013	1,515	266	2,810

[1] Le régiment mixte, commandé par le colonel du 13e d'infanterie de marine, comprenait le 1er bataillon de ce régiment, le bataillon malgache et 1 bataillon formé de 2 compagnies du 3e bataillon du 13e et 2 compagnies de Haoussas.

[2] Ce régiment, constituant la réserve et commandé par le colonel du régiment colonial, comprenait le 3e bataillon du 200e et 1 bataillon formé de 2 compagnies du 3e bataillon du 13e d'infanterie de marine et de 2 compagnies de Haoussas.

These elements were :—

1. The Advanced Guard, forming the fighting line, and including, beside the General Headquarters, the following, viz. :—Brigade staff, regimental staff, 3 battalions, 1 detachment of cavalry, 2 mountain batteries (of 4 guns each), 2 companies engineers, 1 section ambulance. In order not to encumber this first échelon, a convoy of pack mules, representing five or six days' provision only, accompanied it.

2. The Main Body escorting the principal envoy to which was attached the remainder of supplies for Advanced Guard. This échelon was to follow the Advanced Guard, one day's march in rear, and included :—1 brigade staff, regimental staff, 3 battalions, 1 detachment cavalry, one battery artillery (4 guns), 1 ambulance section. General convoy for the 2 first échelons.

3. The Reserve, acting as Rear Guard, following the Main Body at forty-eight hours' interval. It had its own convoy of supplies and 1 regiment of 2 battalions.

In spite of the reductions in scale of rations and weight of baggage it was impossible to carry more than twenty-two days' provisions, 140 rounds per man (including those in men's pouches) and a total of 1,116 projectiles for 12 mountain guns of 3-inch calibre.

The Light Column was concentrated at Mangasoavina on the 9th September, and inspected rigorously, in order to eliminate all men unfitted to undertake the projected march of eighteen to twenty days.

On the 13th September preparations were sufficiently advanced to order the march of the Advanced Guard for the 14th, Main Body on the 15th, and that of the Reserve for the 17th September.

During the march the Light Column would follow the Malagasy track which connects Andriba Market with the capital of Imerina. This path, taken generally by the native porters, would be made fit for passage of the mules by the companies of Engineers of the Advanced Guard, which would alternately take the head of the column to clear the difficult points from obstacles.

The ground to be covered along this track, of a total length of about 118 miles, can be divided into three distinct zones:—1. From the plain of Andriba to the Great Ambohimena Mountains[1] (the valleys of the Firingalava of the Mamokomita and of the Manankaso); 2. From the

[1] *1st Zone.*—The plain of Andriba is bounded on the south side by a rocky mountain group, through which the Mamokomita and the Firingilava rivers have cut narrow valleys, by which their waters unite near Mangasoavina. These two streams are separated by a scarped height crowned by the plateau of Tafofo, 1,150 feet above their courses. The Mamokomita rises in the east and runs north, whilst the Firingalava descends from the heights of Kiangara, and runs entirely from south to north, in a very precipitous ravine full of cascades and torrents. The heights of Kiangara, an advanced spur of the Great Ambohimena mountains, separates the Firingalava from the Manankaso. The altitude of the Ambohimena range (highest point 4,800 feet), which rises 2,300 feet above the waters of the Manankaso, and 1,000 feet above the Antoby valley, and the steepness of its slopes cause it to form a serious obstacle, which is crossed generally by the Malagasy at three distinct passes.

2nd Zone.—Between the Great Ambohimena and the Ankarakara range the undulations of the ground are much less steep, the inhabitated places are more frequent, the valleys are wider and cultivated in rice-grounds; the defensive positions are not tactically so good as in the preceding zone. The march of the convoys thus became easier, in spite of the difficulties presented by the marshy rice-grounds, and the narrow embankments, which retain their water, in bad order.

3rd Zone.—The chain of the Ankarahara commands the valleys on its northern slope by about 600 feet, but the slopes are gradual, and easily practicable for beasts of burden. The region to the south beyond is more broken, whilst far more populous; the villages are but 1½ miles or 2 miles apart, and are fairly well built, mostly of sun-dried bricks. Some few, as at Babay, are built upon isolated hills, which are naturally good positions of defence. Mount Lohavohitra (5,576 feet), to the east of the track leading to Antananarivo, ought to constitute for the defender, an excellent flank position. As the capital of Imerina is approached the rice-fields become more extensive; and latterly, in the immediate environs of Antananarivo, within a radius of 9 or 10 miles to N.W., W., and south, the plain is nothing but a vast rice-field, which is impassable, excepting on the extremely narrow embankments.

Great Ambohimena to the Ankarahara mountains (the valleys of the Antoby and Andranobe); 3. From the Ankarahara mountains to Antananarivo (Imerina).

Fight at Tsinainondry (*15th September*).

The Hovas, on being driven from Andriba (22nd August), had tried to establish themselves on the northern slopes of the plateau of Tafofo, where extensive works had been thrown up. Forced to leave these lines by reconnaissances under Commandant Ganeval, on 9th September, and under Commandant Vandenbrock on the 12th September, they had retired 9 miles to the rear, on the naturally-strong position of Tsinainondry, which commands the two paths from Andriba, one by the pass of the Firingalava, the other by that of the Mamokomita. The village of Tsinainondry is at the narrowest part of the deep cutting through which the Firingalava flows, on a hill of 300 feet, which wholly commands the defile, and is itself commanded by two rocky plateaux (500 to 650 feet). On these heights the Hovas had constructed three batteries to the west on the rocks of Ambohibé. On the mountains to the east two other batteries. The hill of Tsinainondry itself was covered by two redoubts, one above the other. The seven works were armed with 9 or 10 guns, whilst in rear of each were extensive camps of thatched huts. Besides, the bottom of the valley was defended by trenches, pallisades, and abattis.

On the 14th September General Duchesne joined Metzinger's Advanced Guard with the Malagasy Battalion (500 rifles), and reaching the south of Tafofo plateau in the evening, reconnoitred the enemy's position. On the 15th the main body (3 battalions, 2 batteries, and 2 companies engineers), led by Colonel Oudri, under the immediate direction of General Metzinger, took the path to Ampotaka—¾ mile N.E. of Tsinainondry—and thence flanking the deep ravines which feed the marshes of Ampotaka, advanced with great difficulty to a small ridge at 2,000 yards from the hill of Tsinainondry; whilst half a battalion of Algerian Tirailleurs (without valises) attempted to reach the rocky plateau to east of the Hova position. The mountain guns were much impeded by the marshy ground, and the whole of the fire of the Hova works was concentrated on Metzinger's main body. Meantime the Malagasy Battalion descended from Tafofo by a branch ravine of the Firingalava to the west at 1¼ miles N. of Antanjombato, and gaining the rocky summit of Ambohibé, surprised there (at 8.30 a.m.) two strong Hova detachments, which they attacked with the bayonet, after two or three volleys, drivin g the defenders in great disorder on to the western batteries, which were evacuated precipitately on the approach of the battalion. By 10 a.m. the two batteries were able to get to Metzinger, whose Algerians had by this time succeeded by volleys, at 1,800 to 2,200 yards, in dislodging the Hovas from their lower battery on Tsinainondry and the fire of the eight mountain guns could now reach the parapets of the next higher battery on Tsinainondry Hill, which was thereby silenced. Fire was then turned on the lower battery of the ridge

beyond at 2,800 yards, and when that had been evacuated likewise, on that of the culminating summit at 3,280 yards. The approach of the 3rd Battalion Algerians on the rocky plateau, from whence they advanced rapidly on the ridge, driving several hundreds of the enemy's infantry before them, added to the effect of the artillery fire, brought about by 11.20 a.m. the retreat of the defenders of the last work. During this last phase, Colonel Oudri had pushed with the first two battalions of the Algerian Regiment to the summit of the Tsinainondry Hill, whilst the enemy, dislodged by Commandant Ganeval, fled rapidly in three columns, not by way of the valley, but by the western ridges towards Kiangara; nevertheless, one of these columns, on being pressed too closely by the Malagasy Battalion, was able to reform and to place in battery one gun at about 3 miles south of Tsinainondry. At 1.30 the pursuit was stopped. This affair, which cost the French only three wounded, opened the road for the Light Column to the foot of the Great Ambohimena mountains. After bivouacking on the night of the 15th September near Tsinainondry, the first group of the Light Column, excepting the Malagasy Battalion which halted to join Voyron's main body, pursued its march without hindrance.

Metzinger's Advanced Guard bivouacked on the 16th at Ambohinoro; and on the 17th, after having ascended without assistance the *col* of Kiangara, where the Hovas had also constructed batteries and earthworks, which were abandoned before the arrival of the French; it encamped at Antanétibé, at the foot of the great Ambohimena range, of which it occupied the spur which extends from Kinadji towards the east north-east.

The Passage of the Great Ambohimenas.—(*19th September*).—For some weeks the Hovas had been constructing on this range numerous works. On retiring here from Tsinainondry they had found besides a store of provision and artillery, considerable reinforcements, including a contingent of the Royal Guards. Three tracks lead up the mountain side and meet on the south slopes near Maharidaza. The most direct of those, and the most frequented, are the central and the east paths; whilst the west, steeper and more difficult, is rarely used. General Duchesne was led to suppose that the fourteen defensive works, visible from Kiangara, were concentrated on the centre and east paths; whilst the western track was more or less neglected. His personal reconnaissance on the 18th confirmed his views, and he arranged his attack for the 19th. General Voyron's échelon having arrived on the 18th, the two first groups [1] of the Light Column took up position that evening on the front spur of the Ambohimenas. General Metzinger's on the left, near where the east and centre paths meet; General Voyron's on the right at a mile to the west towards Kinadji. The right column [2] was to outflank the Hova works by

[1] These two échelons comprised altogether 6 battalions, 3 batteries, and 2 companies Engineers.

[2] The right column included 6 companies tirailleurs, Malagasy and Haoussas, 1st Battalion 13th Marine Infantry, a section of 8th Battery, and 13th Company Engineers; besides the half-squadron of cavalry.

the west path. Its objective being the redoubt established on the summit of the range, at an altitude of 4,800 feet. The left column[1] was to attack the several works on the east and central paths, with the same objective, where the two columns would meet. The convoy remained encamped at Antanétibé under escort of one company of the 2nd Group. Another company of 2nd Group was stationed as Reserve and rallying point, a little to the east of Kinadji.

On the 19th, at 4 a.m., whilst yet dark, the 3rd Battalion Algerians descended into a deep ravine, in order to outflank the Hova works in front and to act as a connecting link between the right and left columns; whilst, at the same time, Voyron's right columns led by the Malagasy Battalion advanced along the west path. When day broke, the left column showed itself well in view of the enemy, and awaited the development of the right attack. As soon as the Hovas discovered the Algerian skirmishers of the intermediate column, all the fourteen Hova works opened fire, regardless of range, from which it was seen that nearly all the works were armed with guns as well as rifles; whilst several shelter trenches, hitherto unperceived, were made evident by the firing.

At 7·30 a.m., the advanced party of Voyron's column could be seen on the ridge, 3½ miles west from the objective work,[2] on which General Metzinger's troops commenced a front attack against the trenches on the central path with three companies of 1st Battalion Algerians; whilst the 4th Company of this battalion, without valises, under cover of a ravine tried to turn the first batteries on the east path. Artillery fire was opened to support this movement; but the range was too great, and the guns were ordered to follow the 1st Battalion.

The 4th Company, after a laborious climb, found the near battery evacuated, and fired volleys at the works above, which were also fired into by another company of the 1st Battalion; this was followed by a general exodus of the defenders from all the advanced works, which were likewise threatened by the flank march of the 3rd Battalion.

Suddenly the Hovas, about 8 a.m. became aware of the danger threatening them from the west, and a detachment of about 350 men was despatched against the head of the Malagasy Battalion, which at once drove them in disorder towards the works on the summit. Forthwith all the defence, as far as the works, 3½ to 4 miles away to the east, collapsed, and to the surprise of the French, their formidable positions were abandoned by the Hovas, who beat a retreat on all sides.

The left column did not reach their objective point[3] till 11 a.m., such was the steepness and difficulty of the ascent. Whilst the Malagasy Battalion, with the cavalry, and closely followed by General Voyron, had reached the summit by 9 a.m., and driven out the last defenders. The

[1] The left column was formed by 3 battalions Algerian Regiment, 9th and 16th Batteries, and section of 8th Battery, with 11th Company Engineers.

[2] Near the culminating point, at 4,800 feet altitude.

[3] The work on point at 4,800 feet, summit of the Ambohimena mountain.

Malagasy Battalion and cavalry pursued the Hovas, of whom 6,000 or 7,000 hurried down the southern slopes, towards the valley of Antoby, in four principal groups. Unfortunately the mountain guns delayed by the bad paths could not keep up with the rapid pace of the Malagasy Tirailleurs. Nevertheless, the Hovas crushed by the volleys of the leading battalion and cut up by the cavalry,[1] broke all the order of their retreat, and left in their track a large proportion of their equipment, including 3 Hotchkiss guns,[2] 4 carriages, and munitions. At one blow the Hovas fled right away to the Ankarahara range, at 28 miles to the south; and from the summit of the Ambohimenas, on the 20th September, no trace of an enemy was visible, as far as the eye could reach in that direction. In spite of this precipitate retreat, the Hovas were able to burn all the habitable places along the road. This destruction indicated that resistance was still contemplated by the Hova Government.

March on the Ankarahara (*21st—23rd September*).

On the 19th General Duchesne's camps were established on the plain of Maharidaza, at the southern foot of the Ambohimenas. Their front covered by the Malagasy Battalion and the cavalry, halted where the pursuit had ceased. The convoys came up on the 20th, and the march was resumed on the 21st by the Advanced Guard, now formed by General Voyron's échelon. The general convoy with General Metzinger's échelon marched on the 22nd, followed, at a day's interval, by the 3rd échelon (reserve), which had halted on the 21st at Antanétibé.

The Advanced Guard bivouacked on the 21st September at Talata, near Ankazobé, on the watershed between the Antoby and the Andranobé, on the north side of the Ankarahara range, whose slopes it ascended on the 23rd September. On this day the cavalry at the head of the column was fired upon by a group of Hovas, who retired immediately a gun was brought into action. This party formed an outpost of an important assemblage encamped on the south side of the Anharahara, which at once retired to the slopes of Mont Lohavohitra. On the 23rd the Advanced Guard bivouacked near Fihaonana, at the foot of Mahatsinjo at about 5 miles from Lohavohitra, where numerous troops of the enemy could be observed apparently intending to fortify themselves on this scarped and rocky mountain.

Operations in Imerina (*24th—26th September*).

The Advanced Guard, in descending from the Ankarahara, had set foot in Imerina—that is, in the best cultivated and most populous region of the island. It was, now, not more than 30 miles from Antananarivo, the centre of the Hova power; but the character of the warfare became henceforth changed. The enemy, whilst beating a retreat in this higher zone, no longer burnt the inhabited centres. The inhabitants, exclusively Hovas, still fled before the French troops, but many seemed to re-assemble on the flanks of the line of march; and the uninjured villages, surrounded

[1] Vide *Revue de Cavalerie*, Avril 1897.

[2] Hotchkiss guns of 3·07-inch.

with high walls and deep ditches, afforded shelter to hostile partisans disposed to make sudden attacks on the convoys. It was no longer ordinary methodical fighting which the column had to confront, but it had as well to protect the long line of convoys against surprises and flank attacks.

These considerations induced General Duchesne to close up the several échelons of his column. The transport train had now been lightened of more than half their provisions; a considerable number of the mules had been sent back to Mangasoavina, carrying the slightly wounded, the sick, and the lame. It was now possible to unite the two leading échelons in one body.

Accordingly, General Voyron's group halted near Fihaonana on the 24th to await the 2nd échelon under Metzinger. Whilst halted, two reconnaissances were directed—one towards Lohavohitra mountain, where the assembled tribesmen were easily dispersed by a company of Haoussas; the other in the direction of the front towards Babay, where no enemy was visible.

On the 25th the united échelons marched in one body, followed at one day's interval by the reserve. Covered by a flanking company, which skirted the Lohavohitra mountain, this march was effected without incident.

At 1 p.m. the column bivouacked near Andavabavy, at the foot of of the hill of Babay. The cavalry in front having reported a considerable body of the enemy at Sabotsy (2½ miles S.) and on the heights E. and W. of this village, strong outposts were established on a long plateau overlooking the camp, and wholly masking it from view of the enemy. The enemy was reported to be occupied in constructing batteries and trenches.

Skirmishes of the Advanced Guard at Sabotsy and Ambohipiara (26th September).

On the 26th the column continued its march under the same conditions as on the 25th, but with Metzinger's group leading in rear of leading battalion[1] and cavalry now in rear, and close followed by Voyron's group. The objective was to camp on the plain situated to the N.W. of the hamlet Alakamisy. The track led over broken ground straight to within 1,000 yards of Sabotsy, then turning E. surmounting the northern slopes of Mont Antanjombato which commands, by 650 feet, the rice fields of Manarano Valley, beyond which rises the northern side of Fandrozana 360 feet above the plain where it was intended to camp.

Numerous contingents of Hovas were disposed on Mont Antanjombato, in Sabotsy village, and along the ridges over that village to the

[1] Of Metzinger's group. The 1st Battalion Algerian Regiment headed the column, followed by cavalry and 3rd Battalion Algerian Regiment; next came 16th and 9th Batteries and 2nd Battalion Algerian Regiment. Then Voyron's entire group.

west, where an embrasured work was visible. The enemy reserved their fire until the leading battalion deployed in échelon, neared the hamlet 600 yards from Sabotsy, and 400 or 500 yards from the Hova position.

A shot from the Hova battery then gave the signal for a general musketry fire, which was opened on the French column from the Hova lines, by which six Algerians were immediately wounded. The shells of the mountain guns soon silenced the enemy's artillery; but as a brisk fire was still kept up by the Hovas under cover, whilst the French column was exposed, three companies were sent forward to clear the neighbourhood from the enemy. On these companies advancing the Hovas fled without waiting for the assault, some to the south behind the village of Sabotsy, others to the east towards the capital. The 1st Battalion and the cavalry pursued them as far as Soavinimerina, dispersed them completely, and drove a large number of them across the Ikopa river. The 3rd Battalion went in pursuit of the others, but could only reach Antanjombato in time to see the fugitives already on the further side of the Manarano rice-fields, and out of range. But the 16th Battery which followed was able to disperse, by its fire, the groups climbing the sides of Fandrozana.

The order of march was resumed at 7.30 a.m. with the 3rd Battalion Algerians in front, followed by the two batteries of the 2nd Battalion Algerians and Voyron's group. After passing with some difficulty the Manarano rice-fields, the column ascended the north side of Fandrozana; on reaching the summit, the head of the Advanced Guard was fired upon by 300 to 400 Hova stragglers, who, during their immediate flight, suffered severely from the volleys of the 3rd Battalion at 500 yards range. On reaching the height of Tsimahandry, the head of the column met a well-aimed fire from three guns in position on the heights of Ambohipiara,[1] one shell killing a corporal of the 2nd Battalion Algerians. The two batteries of the Advanced Guard immediately opened in reply, whilst the 3rd Battalion advanced direct on, and the 2nd Battalion turned by the east the enemy's position, which they shortly occupied. Meantime, the 1st Battalion had come up from Soavinimerina, and General Voyron's group occupied the height of Tsimahandry. At 3 p.m. the column pitched its tents on the plain N.W. of Alakamisy, as contemplated, whilst the advanced posts were placed at Ambohipiara, on the top of Alakamisy, and on one of the summits to the north of the plain. These three skirmishes cost the French 1 corporal killed, 7 men wounded (2 seriously), and 7 missing.

During the 27th the column stayed in camp at Tsimahandry. This halt was necessary to afford the indispensable rest to the troops of the two principal groups, and to enable the third échelon under Colonel de Lorme to join, thus completely concentrating the column for the attack of the enemy's last retrenchments. It was important to unite the force, inasmuch as it was now but 12½ miles in a direct line to Antananarivo, which could be plainly seen from Ambohipiara, across the vast inter-

[1] From Ambohipiara, the birthplace of the queen, the column first came in sight of Antananarivo.

vening plain of rice-grounds.[1] In the morning Captain Martinie, of the Intelligence Branch, with an officer of Engineers, took a company of Malagasy Battalion to reconnoitre the path towards Ambohimanga and Imerimandroso, which was found practicable for mules, whilst no trace of the enemy was observed. On the evening of the 27th the third échelon joined the two other groups, and was immediately redistributed. The 3rd Battalion 200th Regiment was attached to Metzinger's group, and the mixed Marine Battalion to Voyron's, thus enabling the Haoussa Battalion, and the 3rd Battalion of Marine Infantry to be be reconstituted.

Affair with the Rear Guard at Alakamisy (*28th September*).—General Duchesne having decided to turn Antananarivo by the north and by the east, the great circular movement commenced at daybreak on the 28th. A flanking guard—3rd Battalion Algerians and 16th Battery—under Colonel Oudri took post on the heights of Alakamisy to cover the march of the column; whilst the 1st Battalion Algerians was detailed to escort the convoy, leaving two companies as a rear guard.

The Advanced Guard and the main body of the column arrived without incident, by noon, at the place fixed for the bivouac $1\frac{1}{5}$ miles S.W. of Ambohimanga; but the convoy, travelling slower, towards the afternoon was followed upon too closely by increasingly numerous bodies of Hovas, until the rear guard was obliged to halt and face the enemy. At first the Hovas were inclined to retreat, but soon returned to the attack on the two companies who had to retreat *en échelon*. On this the enemy became more pressing, wounded six Algerians, and tried to get on the flank of the convoy. The movements of the two companies being much impeded by their wounded and stragglers of the convoy, they were almost surrounded, whilst their supply of cartridges began to fail. At this moment 50 Sénégalais conductors from the convoy came to their

[1] Under these conditions, to attack Antananarivo by the direct road from the north-west would require not only the necessity to open, with great difficulty, a passage across swampy rice-fields by the narrow banks which separate them, but would entail as well the defile of the column in single rank under the fire from the various isolated hills occupied by the enemy, and to cross the Mamba, the affluent of the Ikopa near its confluence, where it is broad and deep; and finally to attack from beneath the place with a command of 500 feet above the plain, without any ground favourable for planting guns. These considerations, which had long pre-occupied the Commander-in-Chief, induced him to describe around Antananarivo a large arc of a circle, in order to attack the place by the east and south-east, in spite of the difficulties presented by such a flank march almost within view, and under the fire, of the enemy.

It appears that this delicate and risky flank march had (besides the facilities gained for attack) political advantages of great importance. The Hovas seeing the French so close to Antananarivo, and expecting an attack on the 27th, had prepared a general exodus of the population and Government; but conceived, on finding the French halted, that their assailants were intimidated or hesitating; and they even believed, on the 28th and 29th, that the French were making their retreat by Ambohimanga towards Tamatave, not appreciating the flank movement for attack until the 30th, when it was too late to undertake the projected flight which had been abandoned for three days, under the influence of these curious illusions.

assistance; and soon afterwards Colonel Oudri's battalion intervened, and enabled the convoy and rear guard to resume their march, but the bivouac was not reached until 8 p.m.[1] The night was passed quietly, and at daybreak the march was resumed.

Fighting at Sabotsy-Amboniloha (*29th September*).—As it approached Lazaina, the column encountered a portion of the garrison of the capital. A few volleys sufficed, at first, to keep the enemy at a distance; but when the head of the Advanced Guard[2] debouched on the market-place of the village of Sabotsy it was received with a brisk fusillade and cannonade, which wounded one officer and three men. The battalion at once deployed and gained, on its right flank, the hamlet of Namehana, which it occupied; whilst the 3rd Battalion of the 200th, which formed the head of the main body supported on the left, so as to outflank the enemy's right, and awaited the artillery to take up its position.

The Hovas, having then retreated without awaiting to be attacked, General Duchesne, to clear the approaches to Ilafy, sent to the front, as far as Amboniloha, two companies Malagasy Tirailleurs, and two companies Marine Infantry, with a section of artillery under Commandant Borbal-Combret. After a brisk fusillade, which wounded one tirailleur, the column remained master of the field, and established its bivouac by noon at the point designated, in a depression S.W. of Ilafy, at 5 miles, as the crow flies, from the Queen's Palace.

The depression, where the camp was established, is bounded to the N. and E. by a line of ridges (500 feet higher) on which the villages Ilafy and Ambohibé are prominent; to the S. by a series of mamelons (with a relief of 100 feet), on which stand the villages Mandrosoa and Ambatofotsy; to the W. by hills (of 200 feet relief), which join the hills to the S. at Ambatofotsy. The villages of Ambohitrarahaba and Amboniloha occupy a long spur, which descends from these last hills towards the west.

The Capture of Antananarivo (*30th September*).—As a protection from surprise the outposts occupied the villages of Ilafy, Ambohibé, Ambohitrarahaba and Ambatofotsy, and on the afternoon of the 29th General Duchesne reconnoitred the country about Antananarivo from the hill, N. of Ambatofotsy (4,264 feet altitude).[3] The Hovas occupied, in great

[1] The body of Hova troops, which had pushed this vigorous attack against the French rear companies, was commanded by Rainianzalahy, and included about 2,000 men. This force kept hanging about the French rear guard, and did not cease to harass them until the capture of Antananarivo.

[2] Formed by quarter squadron Cavalry, 2nd Battalion Algerian Regiment, and 11th Company Engineers.

[3] The capital is situated on a rocky plateau, very narrow and elongated from N. to S., with its sides E. and N. very abrupt, and in some places nearly vertical. This plateau has a form of a Y, of which the two branches directed N. fall gradually towards the rice-grounds at their foot, whilst the single branch towards the S. terminates by an abruptly scarped face.

The Queen's Palace occupies the summit of the plateau (4,782 feet) in the centre of the single branch and commands the course of the Ikopa and neighbouring rice-fields, 656 feet below.

force, the first chain of hills (that nearest the capital), especially the observatory and the village Andrainarivo. They had besides, established batteries on the mamelons (4,362 feet and 4,300 feet). It was evidently on this line that the Hovas intended concentrating all their efforts to cover the city of Antananarivo itself.

The operation contemplated for the 30th comprised two distinct phases:—Firstly, the attack and occupation of the first line of hills which stretches N. from the observatory; secondly, the bombardment, and, if necessary, the assault of Antananarivo. To effect this the column would de divided in two échelons, the left échelon,[1] under General Metzinger, would undertake the outflanking attack by the south, and then the direct front attack of the Palace (from the east). The others,[2] under General Voyron, would form the pivot of the movement and attack by the north-east.

General Metzinger was to march before daybreak, concealing his movement along the east slopes of the third line of hills to gain by Soamanandrarina and Ambatomaro, the second line of the Ankatso hills, from whence he would attack the two summits of the observatory and Andrainarivo on the first line.

General Voyron was to mass his forces towards Ambatofotsy, and, whilst covering the convoys assembled in a valley to the N.E. of this village, would attack the points, 4,362 feet and 4,300 feet, on the first line when he perceived the attack of General Metzinger against the south of same line.[3]

The movement of General Metzinger by the third line of hills, over

On the E. and N.E. side, three chains of heights run parallel with the plateau of Antananarivo. The first (2,350 yards from the capital) is crowned by the observatory of Ambohidempona (4,600 feet), by the village of Andrainarivo (4,640 feet), and by two groups of ruined huts (one 4,362 feet and the other 4,300 feet). The second chain shorter and of less elevation than the first (hills of Ankatso) runs, at about 1,640 yards, to the east of the former. Whilst the third chain is that, which, starting from the village of Ilafy on the N., runs S., passing by the village of Ambohibé (4,750 feet). These three chains are united by a lower transverse ridge, on which stand the villages of Soamandrarina, Ambatomaro, and Andraisoro. These altitudes, given in mètres, are marked as trigonometrical points in Père Roblet's map, are referred to in General Duchesne's report.

[1] This left échelon comprised the three battalions of the Algerian Regiment, the 3rd Battalion of the 200th and the Malagasy Battalion (especially designated for the outflanking movement by the south; besides the 9th and 16th Batteries, 13th Company Engineers, and the cavalry.

[2] The right échelon consisted of the 1st and 3rd Battalions of the 13th Regiment Marine Infantry, the Haoussa Battalion 8th Battery, and 11th Company Engineers.

[3] This programme had to be slightly modified on the morning of the 30th, in consequence of the re-appearance of Rainianzalahy's corps towards Sabotsy, to the N. of Ilafy, which, before 6 a.m., opened a brisk fire with two guns against the convoy and escort. General Duchesne, whereupon, retained in rear, at Ilafy, under Colonel de Lorme, three companies of the Haoussa Battalion, with a company of the 3rd Battalion 13th Marine Infantry, and sent two other companies of this Marine Battalion, one to Ambohibé, the other to Ambohitrarahaba, to cover the flanks of the right (Voyron's) échelon.

very broken ground, was necessarily slow, all the more so that his left flank was threatened during this march by numerous bodies of the enemy's skirmishers posted behind cover in every village. It was not until 8.30 a.m. that the head of the column debouched opposite the rocky summits of Ankatso, which the enemy had by this time occupied in strength.

A section of the 16th Battery immediately came into action and opened fire (at 8.45) on Ankatso to cover the attack by the Malagasy Battalion and the 3rd Regiment Algerians. At 9.30 the Malagasy Battalion occupied the summit of Ankatso, whilst the Algerians were established a little in rear of Ambatomaro village.[1]

Metzinger's other troops then massed, in succession, under cover of the Ankatso heights, from which the 9th Battery and a section of the 16th opened fire (at 11.45), first against the observatory, next against the village of Andrainarivo. The Hova artillery replied vigorously, and it was not silenced until 12.35 (after having received seventy-seven shells), when the Malagasy Battalion at once attacked and occupied the observatory by 12.45.[2]

Meantime[3] the 8th Battery of Voyron's right column had opened fire against the Hovas posted on summits 4,362 feet and 4,300 feet, whose projectiles fell near the convoy of 1,300 mules concealed from the enemy's view. Two companies, 3rd Battalion Algerians, however, had advanced and occupied Andraisoro; but when they moved on to attack Andrainarivo, before the artillery had prepared the attack, they were met with such a heavy fire that they were forced to fall back on Andraisoro, having lost in this premature engagement 2 N.C.O.'s and 4 tirailleurs killed, 2 officers and 17 tirailleurs wounded.

A counter-attack was even attempted by the Hovas against Andraisoro; it was stopped by the volleys from the rest of the battalion and by the flank fire from the 8th Battery of the right échelon, which, after having silenced the fire from points 4,362 and 4,300 had turned its attention to supporting General Metzinger's movement.

At the same time, five of the six companies of Marines rapidly occu-

[1] In this first attack 1 officer and 1 tirailleur of the Malagasy Battalion were wounded.

[2] In this attack 2 tirailleurs were wounded.

[3] Meantime the rear guard at Ilafy, under Colonel de Lorme, had, at first, to rest wholly on the defensive protecting the convoy from the attacks of Rainianzalahy's corps of 2,000 men with 2 guns, posted at Sabotsy. But at 11 a.m., when the convoy had moved away under cover of General Voyron's right group, Colonel de Lorme was enabled to take the offensive and to vigorously attack Sabotsy, the centre of the enemy's line. Two companies of Haoussas were sent to the front, whilst another company made a flanking movement to the left. They soon rushed the slopes on which the village stands, drove off the enemy and seized the two guns, which were well defended by the Hova artillerymen, many of whom were killed at their posts. At 12.30 the rear guard was master of the situation, the Hovas having disappeared to the north and to the west. This secondary but creditable affair cost the French 2 Haoussas killed and 12 wounded. The dash of the Haoussas is much commended by General Duchesne. Colonel de Lorme has since died from effects of the campaign in February, 1897.

pied the two points named above, and one of these companies supported the attack on Andrainarivo, which was carried by the 3rd Battalion Algerians, followed by the 3rd Battalion of the 200th.

Immediately on occupying the observatory, some officers and N.C.O.'s of the Malagasy Battalion turned two guns, which had fallen into their hands,[1] against Antananarivo, thereby facilitating the occupation of Andrainarivo. At 1.30 p.m. the entire line of hills, which constituted the exterior defence of Antananarivo was in the power of the French. It now remained to attack the city itself.

The fire of two strong batteries at the Palace, and of many guns posted at several other points, was now opened against the French positions; and at 2 p.m. General Duchesne ordered a slow bombardment with mélinite shells to be commenced against the batteries of the town; six storming columns of two companies each, conducted by guides, who knew the roads, and accompanied by detachments of sappers furnished with *pétards*, were detailed to approach Antananarivo on the north and east, following six indicated paths, all converging on the Palaces of the Queen and the Prime Minister. The artillery was ordered to elevate its fire in succession, to extinguish the fire of all the centres of resistance which might be formed in front of the French columns.[2]

At 2.55 p.m. the general bombardment commenced. The artillery fire was rapidly adjusted, and each of the 16th and 9th Batteries fired five mélinite shells[3] on the batteries of the Palace terrace.

The material devastation, the losses suffered, and the moral effect produced by this fire on the Hovas were such that, about 3.30 p.m., a white flag was hoisted on the Palace. The storming columns were just

[1] The breech-pieces of these guns had been carried off by the Hovas, but Commandant Ganeval had the happy thought to replace them by improvised breech-blocks of wood which sufficed to enable fire to be kept up until the arrival of the batteries of the left group.

[2] The 9th and 16th Batteries had left their positions at Ankatso at 1 p.m.; but delayed by the difficulties of the ground, they were unable to arrive at the observatory before 2.40 p.m. On the other hand, the 8th Battery of the right échelon had been able to reach the point, 4,300 feet, by 1 p.m., and from this point was able to open an effectual fire against a Hova battery established in the north part of the town (at Faravohitra.)

[3] It has already been observed that, in all the artillery engagements, mélinite shells had been employed. The results produced by the explosions of these projectiles have been considerable, and far superior to those obtained by the use of shrapnel shell of the same calibre.

It is not out of place to add that, throughout the course of the campaign, the force of circumstances prevented the double shells from being taken too carefully so that they were subjected to some rough treatment both in transhipment on the lighters and in their carriage by Lefebvre carts. No difference in transport could be made between the common projectiles and the mélinite projectiles; more than one case containing mélinite shell experienced severe shocks, and even rolled over into the ravines with the pack mules without any harm to the shell, or accident.

As to the proportion of 15 per cent. of elongated projectiles carried by the mountain batteries of 3·2 inches, adopted for the Madagascar Expedition, it seems rational, and ought to be adhered to for colonial expeditions of the same description.

advancing, and that (Malagasy Battalion) of the extreme left, had even reached the foot of the slope and was beginning the ascent, when a parlementaire, preceded by an immense white flag, presented himself before the French lines.

This was a Secretary[1] of the Prime Minister, requesting a cessation of the fire. General Duchesne agreed to this, granting 45 minutes in which negotiators with full powers must present themselves, adding that *nolens volens* he intended to occupy the city that afternoon. Before the time indicated, a son of the Prime Minister[2] and the Minister for Foreign Affairs arrived in haste bringing an assurance that the French troops could enter the town without fearing any resistance and the declaration of the Government that hostilities would not be re-opened.

General Duchesne immediately pushed forward, under General Metzinger, now appointed Military Governor of Antananarivo, 4 battalions, 1 battery, and 2 companies of engineers. He himself remained with Voyron's group (4 battalions, 2 batteries, and the convoy) on the hills to the east, ready to burn the town if Metzinger's troops encountered any surprise.

General Duchesne announced that he would enter the town on the next day, 1st October, at 8 a.m. to instal his headquarters in the Residency General of France, and that he would receive at 1 p.m. duly accredited representatives of the Government to treat as to terms of peace. He also ordered all the guns, rifles, and projectiles remaining in the town to be given over immediately to General Metzinger.

On the 1st October, General Duchesne entered the city and hoisted the French flag on the Residency General. At the hour named the Hova plenipotentiaries appeared, and the treaty, signed at 3 p.m., was ratified by Queen Ranavalo, and brought back to the French Headquarters by 8 p.m. the same day.

The successful march of the Light Column, lasting seventeen days (with almost uninterrupted fighting during the last four days) had cost the French losses as follows, viz.:—Officers, 4 wounded; N.C.O.'s and men, 10 killed, 52 wounded, 12 missing. The ammunition consumed included about 81,000 cartridges by the infantry, and 363 projectiles by the artillery.

Besides the four guns captured from the enemy on the 30th September, the French found scattered in various batteries of the town seventy-four guns or mitrailleuses of various patterns (thirty modern) and an enormous quantity of munitions of all sorts for artillery and infantry.

6. *Occupation of Antananarivo. Raise of the Blockade of Tamatave, and Repression of Insurrectional Movements* (*1st October*, 1895—*18th January*, 1896).

Redistribution of troops of the Light Column in the town and the environs of Antananarivo.—Of the artillery, two batteries were posted to the east,

[1] Marc Rabibisoa, Second Secretary and French interpreter of the Prime Minister.

[2] Ratilifera, and Andriamafidy, Secretary for Foreign Affairs.

at the observatory and Andrainarivo with another battery on the hill of Ambohijanahary to the west, from which station the Palace and all principal points in the town were well commanded. Four battalions were placed within reach of the artillery, and, at the same time, covering the place to the west and north. A fifth battalion was stationed between Ambohijanahary and Soanierana (to the south) protecting the town to the east and south. Three battalions were cantonned within the town, one guarding the Palace, another the Residency General, and the third the Commissariat Offices at Analakély. All these troops were under General Metzinger; whilst General Voyron was specially in charge of those cantonned in the suburbs.

On 1st October, two companies Haoussas were sent towards Fiahonana to protect two convoys coming from the base at Mangasoavina, which were attacked, between Maharidaza and Ankazobé, by parties of the enemy which still kept the field in this direction. On the 11th October, Ankazobé was occupied by two companies Malagasy Battalion to form a half-way station, and to keep open the line of communication. By the 14th November, in spite of the rainy season, all the troops on the N.W. line of communication had been retired to Suberbieville and Marololo, as henceforth communication would only be kept up with Tamatave on the east coast.

Surrender of the Lines of Farafatra (*11th October*). — On the 11th September, General Duchesne had instructed Rear-Admiral Bienaimé to take to Tamatave as many ships as he could and all the troops which would be spared from Majunga and Diego-Suarez to Tamatave before the 5th October, in order to raise the blockade and open communication with the capital.

On the 30th September, the Admiral brought round part of his squadron,[1] and on 1st and 2nd October landed reinforcements, by which Lieut.-Colonel Belin's force in Tamatave[2] was raised to an effective strength of 39 officers, 1,777 N.C.O.'s and men, with 84 horses and mules.

After the most vulnerable approaches to the enemy's lines of Farafatra, the Admiral decided to attack by way of Vohidotra, the extreme north and left of the blockade line. During the night of 5th and 6th October, a column commanded by Lieut.-Colonel Belin[3] surprised Vohidotra without the loss of a single man. The "Rance" having brought on the 9th October from Vatomandry news of the taking of Antananarivo, and the conclusion of peace, a parlementaire was sent in to demand the surrender of the Hova lines, arms, and baggage. After a suspension of

[1] Primauguet," "Romanche," and "Rance" conveying 304 men, Infantry of Marine, 2 Companies, Malagasy Battalions, 10 mules, and 2 mountain guns.

[2] Garrison of Tamatave under Lieut.-Colonel Belin (who had replaced Colonel de Giovellina, invalided home) consisted of 1 Battalion Infantry of Marine; 1 Company Malagasy Battalion; 1 battery, 4 guns (2·74-inch), 1 section field guns (3·2-inch); 1 section mountain guns (3·2-inch), besides 2 companies of sailors from squadron.

[3] 2 Companies Marine Infantry, 1 Company Malagasy Battalion, battery (2·74-inch), and an improvised detachment.

hostilities for 48 hours, the Hova commander signed a capitulation on the 11th, on which date official intelligence of the fall of Antananarivo arrived.[1]

At the end of October, and during the beginning of November, further reinforcements of Marine troops were sent up to the capital, both from Andriba by the N.W. route,[2] and from Tamatave by the E. route.[3]

Insurrection of South-West District in Imerina.—An insurrection against the Government broke out on the 22nd November among the Zanakantitra tribe[4] in the neighbourhood of Arivonimamo, where an English missionary's[5] family was cruelly murdered, together with the Hova Governor and his officers. Commandant Ganeval was sent with a small column to repress the movement. This operation lasted until the 19th December, when a garrison was left at Arivonimamo, and Commandant Ganeval's column returned to the capital.

Insurrection on the East Coast.—On the 13th December, another insurrection took place among the Vorimos at the mouth of the Mangoro River. Accordingly, Rear-Admiral Bienaimé disembarked a detachment at Vatomandry to restore order. Meantime, several of the villages on the route from Tamatave to Antananarivo were burnt by various bands of brigands; and it became necessary to post troops at the various stations between Andevorante and Moromanga. M. Laroche, the newly appointed Resident General, who landed at Tamatave on the 8th January, 1896, was able to proceed, without escort, to Antananarivo, where he arrived on the 16th January.

VIII.—Return of the Expeditionary Troops to France.

The homeward transport of the sick and wounded from Majunga and Nossi-Comba was effected:—Firstly, by the regular mail-packets of the Messageries Maritimes; secondly, by the Government transports, or by steamers specially chartered for this service. (See Table G.)

In France and Algeria all the hospitals at the ports of disembarkation, had been emptied, in order to receive the sick on their landing; whilst besides, convalescent depôts were organised at Porquerolles and in the suburbs of Algiers. (Table I. shows mortality suffered by the Expeditionary Corps.)

On the completion of the military operations, and on conclusion of peace, the Government decided to leave in Madagascar, besides the

[1] In the lines of Farafatra were found 39 guns, 1,200 rifles, and a quantity of ammunition.

[2] 2nd Battalion 13th Marine Infantry from Andriba.

[3] From Tamatave 400 men Marine Infantry, 100 Malagasy Battalion, 100 men Marine Artillery.

[4] This insurrection seemed to be directed against the foreigners of whatever religious persuasion, and to bring back the Malagasy people to the worship of the national idols, which had never ceased to include a large number of adherents in the mountainous regions of Imerina.

[5] Mr. Johnston, wife and daughter, of the Friends' Foreign Mission Society.

Table G.

Transport of Sick and Wounded to France.

	Name of Ship.	Left Majunga	No. of Passengrs	Description.	Arrived Marseilles	Deaths *en route*
		1895			1895	
1	Notre Dame de Salut	29 June	395	Abyssinians & Kabyles	25 July	10
2	Provence	30 July	600	of which 100 Coolies ...	23 Aug.	21
3	Shamrock*	15 Aug.	563		16 Sept.	40
4	Concordia	20 ,,	550		19 ,,	44
5	Canton	24 Sept.	642		24 Oct.	64
6	Ville de Metz	27 ,,	400		21 ,,	93
7	Cachar	14 Oct.	750		6 Nov.	27
8	Notre Dame de Salut	17 ,,	710		14 ,,	45
9	Vinh-Long*	1 Nov.	360		30 ,,	42
10	Ville du Havre ...	5 ,,	570	Kabyles and Somalis ...	30 ,,	?
11	Cachemire	8 ,,	680		7 Dec.	?
12	Vercingétorix	19 ,,	472		11 ,,	37
		1896			1896	
13	Annamite*	30 Jan.			29 Feb.	?

* Government Hospital Transports.

ordinary garrison of Diego-Suarez, a mixed brigade of occupation at Antananarivo with detachments at Fianarantsoa, Tamatave, and Majunga, to be furnished principally by the Marine or 2nd Brigade of the Expeditionary Corps.

Retaining temporarily at the capital 2 battalions of Algerians to fill up vacancies in the Marine Brigade ; 16th Mountain Battery ; 2 Companies Engineers ; 2 Companies Commissariat Transport ; and quarter-squadron cavalry ; on 15th-16th October, General Duchesne ordered the retirement of the 1st Brigade. On the 22nd October the column of General Metzinger left the capital, and arrived without delay between the 12th and 15th November at Suberbieville and Marololo, where it was joined in succession by the various units of the several services left along the lines to the rear—all the posts being suppressed on the passage of the column, those at Marololo and Mevatanana excepted. The Lefebvre carts were all parked at Suberbieville, whilst on breaking up of the posts on the line of communication, the detachments joined their corps at the following stations, viz., the 40th Chasseurs at Ambato, and the 200th Regiment at Ankaboka.

From Marololo the column descended by water to Majuuga, where the 2nd Battalion 200th Regiment arrived on the 19th November. The first transport left Majunga on the 23rd November, and the others followed in rapid succession, General Metzinger leaving by the mail steamer on the 29th December. In one month the hired transports had embarked 241 officers, 3,043 N.C.O.'s and men, 417 sailors and 2,518 auxiliary conductors, besides 2,074 tons of *matériel*. (See Table H.)

General Metzinger's column was the last convoy sent to the coast by the north-west route. Henceforth communication was only preserved with the east coast. This route, 186 miles, however, was not practicable for beasts of burden ; but a service of native porters was organised and depôts of stores established at Moramanga, Ampasimbé, and Andevorante

Table H.
Return Voyages of Transports.

No	Name of Transport	Left Majunga	No. of Passengers	Description	Arrived Marseilles	Deaths	Remarks
		1895	Offrs. Men.		1895		
1	Chandernagor	23 Nov.	20 443	Artillery units	18 Dec.	—	
2	Carolina	26 ,,	— —	2nd Batt. 200th Regt.	22 ,,	—	300 convalescents
3	Canarias	27 ,,	417	Kabyles and Somalis	20 ,,	13	
4	Liban	29 ,,	— —	1st and 3rd Batts. 200th Regt.	21 ,,	—	150 convalescents
5	Amérique	1 Dec.	21 425	40th Batt. Chasseurs	23 ,,	—	
6	Hindoustan	3 ,,	30 632	1st Batt. Algerian Regt. ...	27 ,,	—	Foreign Legion & 90 convals.
7	Columbia	5 ,,	500	Kabyles	—	—	
8	Italie	9 ,,	63 242	Details	27 ,,	—	210 sailors
					1896		
9	Concordia	11 ,,	530	Kabyles	7 Jan.	—	
10	Massilia	13 ,,	777	Kabyles	6 ,,	—	
11	Cachar	23 ,,	523	Kabyles	—	—	149 sailors
12	Notre Dame de Salut	28 ,,	11 263	Invalids	21 ,,	—	from Nossi-Comba
*	Djemmah ... ... (Mail Steamer)	29 Dec.	200	Comorian Coolies	29 Jan.	—	General Metzinger and Staff

Table H.
Return Voyages of Transports.

No	Name of Transport	Left Majunga	No. of Passengers		Description	Arrived Marseilles	Deaths	Remarks
		1895	Offrs.	Men.		1895		
1	Chandernagor	23 Nov.	20	443	Artillery units	18 Dec.	—	
2	Carolina	26 ,,	—	—	2nd Batt. 200th Regt.	22 ,,	—	300 convalescents
3	Canarias	27 ,,	417		Kabyles and Somalis	20 ,,	13	
4	Liban	29 ,,	—	—	1st and 3rd Batts. 200th Regt.	21 ,,	—	150 convalescents
5	Amérique	1 Dec.	21	425	40th Batt. Chasseurs	23 ,,	—	
6	Hindoustan	3 ,,	30	632	1st Batt. Algerian Regt. ...	27 ,,	—	Foreign Legion & 90 convals.
7	Columbia	5 ,,	500		Kabyles	—	—	
8	Italie	9 ,,	63	242	Details	27 ,,	—	210 sailors
						1896		
9	Concordia	11 ,,	530		Kabyles	7 Jan.	—	
10	Massilia	13 ,,	777		Kabyles	6 ,,	—	
11	Cachar	23 ,,	523		Kabyles	—	—	149 sailors
12	Notre Dame de Salut	28 ,,	11	263	Invalids	21 ,,	—	from Nossi-Comba
*	Djemmah ... ... (Mail Steamer)	29 Dec.	200		Comorian Coolies	29 Jan.	—	General Metzinger and Staff

RÉSUMÉ DU RA
PAR
LES OP
DU COR
15 J
dre
Côte bers Mozambique
CANAL DE MOZAMBIQUE
Colline d'Ambondro
Majunga, 15 Janv.
Wharf
Marohogo, 17 Févr.
Baie Bombetoke
Ambohitromby
Ambodinabatakely
Mevarano, 25 Mars
Miaduna
Antsralava
Mahatsinjo
Ankaboka
Marovoay, 2 Mai
Gué du Tamarinian
25 Mars, Mahabo
Marolambo
Androtra
Betsiboka
Ambalabonga
d'Ankarafantsika
Collines
Mahatombo
Trabonay
Ambato
Bemarivo
Ankoala
Ambatoxo
Hauteurs dénudées
Ambalaxanakomby
Marololo
Amparihibé
Beratsimanana
Mevatanana
Kalamitra
Suberbieville
Besatrana
Androtra
Behanana
Mt Bemzoka
Ikopa
Tsarasaotra
Le Ponceau
Les Sources
Antanimbarindratsotsoraka
Andjiejié
Ampalsirihy
la Cascade
Antsiafabositra
Marokoloby
2463
Petite Ambohimenas
Soavinandriana
Col Ambohimenakely
Malatsy
Kamolandy
Mt Andriba, 3450
Ambodiamontana
Août Marché d'Andriba
Ambontona
Plaine d'Andriba
Mt Hiandrereze
Mangasoavina
Pic Ambohijavona
Pic Faniavarivo
Cascade Andrianbato
Manokomitsy
Plateau Tarofo
Tafofo
Mont Amparafarafara
Antanjombato
Ampotaka
Tsinainondry, 15 Sept.
Mont Ambohibé
Mt Anketrakotrana
Ambohinora
Tsiafindramaso
Kiangara
Antanetibé
Kinadji
Tsiafatry
Grands Ambohimenas
Ambohimena
Plantsona
Maharidaza
Laxaina
Ambatoharana
Ambohimaxava
Matsinainy
Ankaxobé
Rochers Ambato
Antramoka
Antoby
Fierenana
Ranomafana
Mt Ankaratsara
Sept.
Mt Maha
Ikopa
Fihaonana, 4234
Babay
Sabotsy
Ambohip
30 Sept., ANTAN
Environs
d'ANTANANARIVO
0 1 2 3 4 5 kilomètres
0 1 2 3 Milles anglais
Laxaina
Ambatofotsy
Namehana
Sabotsy
Mamba
Ilafy
Ambohitrarahabo
Amboniloha
Mandrosa
Ambatofotsy
Ambohibé
Soamanandrarina
4300
4382
Andraisoro
Ambatomanoro
Farahohitra
Andrahalarivo
Observatoire
Mt Ambohidempona
Ankatso
Antananarivo
Queen's Palace
Palais de la Reine
4070
Ikopa
Soanierana
Sisaony

DU RAPPORT DU GÉNÉRAL DUCHESNE

PAR LE CAPITAINE S.P. OLIVER, 1897

Carte pour suivre
LES OPÉRATIONS MILITAIRES
U CORPS EXPÉDITIONNAIRE
à Madagascar

15 Janvier – 30 Septembre 1895

dressée par J. Hansen, géographe

1/1.000.000

10 0 10 20 30 40 50 Kilomètres

5 0 10 20 30 Milles anglais

Légende

- Route construite par le corps expéditionnaire
- Itinéraire suivi par la colonne légère
- Sentier malgache
- Poste fortifié
- Gîtes d'étapes
- Pont construit par le génie
- 1840 Les altitudes sont en pieds anglais de 0m 3048
- 16 Août Les dates sont les engagements militaires
- La grosseur des noms est en rapport avec leur importance militaire

anakomby
Kamoro
Kalamitra
Betsiboka
nandriana, 15 Août
farafara
dry, 15 Sept.
Ambohimena
Mananara
I M E R I N A
Mt Mahatsinjo
Rabay
Sabotsy
AMBOHIMANGA
Ambohipiara
Ilafy
Observatoire
ANTANANARIVO
Farahina

Imp.ie Lemercier, Paris.

along this track, by which the remaining sick and wounded, when sufficiently convalescent, were despatched home by Tamatave.

On the 18th January, 1896, after having handed over the direction of affairs to M. Laroche,[1] General Duchesne quitted Antananarivo, embarked 25th at Tamatave, and after visiting Diego-Suarez Nossi-bé, and Majunga, he finally left Madagascar on 29th January, and reached Marseilles 20th February, 1896.

Table I.—Mortality of Expedition.*

DÉCÉDÉS.

TROUPES DE LA GUERRE.

Désignation des corps ou services.	Madagascar.	En mer.	Rapatriés.	Disparus.	Total
Officiers ou assimilés	29	4	2	0	35
200e Régiment d'Infanterie	789	118	82	29	1,018
40e Bataillon de Chasseurs	430	48	27	1	506
Régiment d'Algérie	492	35	26	38	591
Chasseurs d'Afrique	28	6	5	0	39
38e Régiment d'Artillerie	298	28	20	5	351
Ouvriers d'Artillerie	14	4	8	0	26
Artificiers	5	0	0	0	5
Compagnies du Génie	309	50	25	3	387
30 Escadrons du Train des Équipages militaires	203	31	14	2	250
Secret d'État-major	2	1	0	0	3
30 Sections de Commis et Ouvr. milit. administration ...	67	18	6	1	92
30 Sections d'Infanterie	92	6	5	1	104
Gendarmerie	9	1	0	0	10
	2,767	350	220	80	3,417

TROUPES DE LA MARINE.

Européens.

13e Régiment d'Infanterie de Marine	509	35	25	8	577
2e Régiment d'Artillerie	134	8	5	1	148
Équipages de la Flotte	41	4	2	0	47
	684	47	32	9	772

Corps et Troupes non Européens.

Régiment colonial	287	10	10	2	309
Convoyeurs Kabyles et autres ...	806	147	85	0	1,038
Conducteurs indigènes	56	0	0	0	56
	1,149	157	95	2	1,403
Total général	4,600	554	347	91	5,592

* From Return issued by the French War Office.

[1] M. Laroche was appointed Resident-General of Madagascar by M. Berthollet, under M. Bourgeois' Administration. He was recalled to France in July, 1896, when Madagascar was declared a French Colony and placed under military law—Imerina and other districts being proclaimed in a state of siege—and General Galliéni arrived with full powers to put an end to the insurrection and anarchy which prevailed. It is noteworthy that, even up to this present date, the trade communication between Antananarivo and Majunga has not been thoroughly re-established. Armed escorts are still necessary for travellers on this route.

A SCHEME FOR THE BETTER ORGANISATION OF THE BRITISH INFANTRY.

By Major the Hon. E. NOEL, Rifle Brigade.

IT seems to be generally felt that the actual organisation of our infantry is not altogether satisfactory.

Since the linked, or two-battalion, system was introduced, the requirements of foreign service have increased, so that several regiments have now both battalions abroad. During these years our own population has added many millions to itself, and foreign Powers have largely augmented their forces; yet there has been no addition to the *cadres* of our Army. Eight new battalions are now wanted to enable us to carry out the scheme of every two-battalion regiment having one battalion abroad and one at home; and even if these were raised, there would still be no provision for the numerous "little wars," or fears of wars, that occur so frequently, and necessitate a reinforcement of our troops beyond seas.

This state of things, which may in fact be almost looked upon as the *normal* condition of our Empire, is totally unprovided for in our present organisation. To adequately meet this want, we should have at home a surplus of six or eight battalions; and thus we arrive at the conclusion that, to put the infantry on a thoroughly satisfactory basis with regard to the actual requirements of the Empire, *sixteen* new battalions are wanted. People have grown to look askance at any addition of new *cadres*, as involving great expense; but it might be possible, by a judicious re-organisation, to find compensations for the increase, which has now become really necessary. The fact is that the existing unit, the two-battalion regiment with its tiny depôt, is too small. The depôt cannot fulfil its proper functions, which consequently devolve on the home battalion; so that it is scarcely an exaggeration to say that one-half of our infantry is depôt to the other half, and of that half even a portion is frequently itself abroad.

The following is the remedy here proposed: to organise the infantry in *administrative brigades* of four battalions, among which the officers and men would be interchangeable. It would not be necessary for the officers to be on one list in the Army List; each regiment might remain distinct; only on a vacancy occurring it would be filled, not by the senior in the regiment, but by the senior in the *brigade*. We should thus wipe out half the existing depôts, and double the strength of the remainder. Each brigade would have generally two battalions abroad and

two at home; of the latter, one on higher strength ready for service, the other on reduced strength.

Two army corps for a campaign could be formed, as shall be shown hereafter, without touching the fourth battalions of brigades; this battalion would be, in fact, a *depôt* to the other three. Its establishment in peace might be about 400, composed of *four companies*, and it should be stationed *with the depôt*, with the four companies of which (one per battalion) it would form one battalion for duty, under the colonel commanding the brigade depôt and two majors, one for the depôt proper, and one for the reduced or "depôt battalion." The position of "depôt battalion" would be filled by each battalion of the brigade in turn.

These brigades could be easily formed by joining together two of the present territorial regiments. In doing this it would be well to link, as far as possible, corps of like character, as Royal regiments with Royal regiments, fusiliers with fusiliers, light infantry with light infantry; and to do so would necessitate, in some cases, a severance of local connection. On the other hand, this organisation would render it possible to restore to each regiment its old number, and the brigades would be composed of:—

1. One two-battalion and two single battalion regiments;
2. Four single battalion regiments;
3. One four-battalion regiment; or,
4. Two two-battalion regiments;

but it would seem preferable to use the twenty-five senior regiments as bases for brigades, which might well take their numbers from that of their first regiment, the remaining brigades being formed of the junior single battalion regiments.

A proposal has been made lately of restoring the Royal Canadian Regiment, the former 100th, to Canada; and, if this were done, and the regiment made a two-battalion regiment with one battalion at home, *i.e.*, in Canada, and one for general service, we should then require in the United Kingdom not sixteen, but *fifteen* new battalions; and the simplest way to form them would be, not to raise new regiments, but in most cases to add third and fourth battalions to some of the first twenty-five of the Line. We should then have 156 battalions, which would form thirty-nine brigades of four battalions each, approximately one brigade to every million inhabitants. Each brigade would have a definite recruiting ground, which could be called a "sub-district." Each regiment would be distinguished by its number, and it would be well if any further designation could be made the same for all the regiments in a brigade, and the designation chosen would naturally become the brigade title.

The proposed formation of brigades will be more clearly understood from the perusal of the annexed table. This is not put forward as the best possible grouping, but is intended to illustrate the principle involved. The first column gives a convenient geographical expression for the proposed brigade area.

If the Royal Scots and Royal Scots Fusiliers, although linked so as to make one brigade for purposes of relief, be nevertheless reckoned as

two, this would make up for the Rifle Depôt of *eight* battalions, and the number of brigades would stand at *thirty-nine*. In two cases only, viz., those of the Royal Canadian Regiment (already referred to) and of the Connaught Rangers, whose second battalion was originally the "*Scots* Brigade," is a separation suggested between corps united in 1881. Some slight changes might be required in the boundaries of the district commands to keep these coterminous with the new sub-districts. The proposed depôt stations are in most cases places where barracks already exist, and where therefor brigade depôts could be formed without delay.

Distribution and Service at Home and Abroad.

With the Royal Canadian Regiment of two battalions, there would be in the Army, exclusive of Guards, 158 battalions, of which 52 would be in India.

Deducting one battalion from Malta on account of the new battalion of Militia to be raised in that colony, and adding one to Canada (the home or depôt battalion of the Canadian Regiment), the battalions on foreign service in normal times would be as follows:—

India	52	battalions
Mediterranean	9	,,
Egypt	3	,,
Canada	2	,,
South Africa	2½	,,
Ceylon	1	,,
Straits Settlements	1	,,
Mauritius	0½	,,
Hong-Kong	1	,,
Bermuda	1	,,
West Indies	1	,,
Total	74	battalions.

Of the Colonial stations, the four last-named being islands which cannot become the scene of field operations, being, in fact, *naval*, and not military bases, might be advantageously handed over to the control of the Admiralty, their garrisons to be composed of Marines and Colonial troops like the West India or Hong-Kong regiments. The Marines on a foreign station would then serve a portion of their time afloat with the fleet, and a portion in garrison ashore. The defence of these Colonies would thus concern only two departments of Government, the Colonial Office and the Admiralty, instead of three as now. The main objection of this transfer, that the place of the Navy is on the high seas, and that it should not be tied to shore defences, is one that every sound strategist, soldier or sailor, would fully admit in principle; but the principle does not apply in the case of small *islands*. Garrison them with whom you will, the garrisons must be dependent on the Navy. It would be a boon to the Army to be relieved of these uncongenial stations, where there is scant opportunity for any military training; and the reduction of their staffs would be a substantial economy.

The troops in the Straits and Ceylon are differently circumstanced as those Colonies comprise considerable territories, but, being contiguous to India with which they have much in common, their garrisons might well be placed under the C.-in-C. in India, and become, in fact, a portion of the Army in India.[1] The Colonial garrisons would then, exclusive of the Mediterranean fortresses, be confined to the *continental* colonies of Africa and America.

Passing over, however, these somewhat controversial matters, and taking things as they now are, that is that the coaling stations are to be held by the Army, we can assume that the contemplated increase of the W.I. Regiment will enable the British battalion to be withdrawn from the West Indies in any case, while the presence of an extra battalion in Canada would make it possible to put a garrison in the important station of Vancouver.

The troops abroad would then be as follows:—

India - - - - - - -	52	battalions
Mediterranean and Egypt - - -	12	,,
South Africa and Mauritius - -	3	,,
Ceylon, Straits, and China - -	3	,,
Bermuda and N. America - - -	3	,,
	73	battalions,

leaving at home 85, or a surplus of 12 battalions, which would be enough to provide for any Colonial emergency, or even for a substantial reinforcement to India without any dislocation of the peace system.

Of the 85 battalions at home, 39 would be "depôt battalions," and these should suffice for the inland garrisons of Great Britain, so that the battalions on higher strength could be concentrated in our camps and large coast garrisons. Deducting 39 from 85, the number on higher strength available for service would be 46, besides 9 battalions of Guards, so that at a pinch we could form 2 army corps with some extra battalions for lines of communication without drawing on the Mediterranean stations.

This organisation would obviate the necessity of sending a brigade of Guards to Gibraltar. This brigade might be stationed instead at Dublin. Assuming that Ireland requires in all 24 battalions, 4 of these would be the 4 Irish depôt battalions; and if 3 were Guards, 17 more would be wanted. Deducting this number from 46, there would remain 29 for England.

By placing the depôts where possible in garrison towns, as a depôt would be equivalent to a battalion, we could free a corresponding number of battalions for the camps. Thus the Kent depôt might be at Dover, the London at Woolwich, the Hants at Portsmouth, the Dorset and Wilts at Portland, the Devon and Cornwall at Plymouth, the Welsh at Pembroke.

[1] This could hardly be done unless a similar transfer were effected in the Civil Government. If it were carried out, some compensation to Indian finances could be made by withdrawing one British cavalry regiment, which India could well spare, being far better provided with this arm than England is.

Of the two rifle depôt battalions, one could be accommodated at Winchester, and the other provide a garrison for Parkhurst. The 29 on higher strength could then be located as follows:—

Aldershot	13	battalions
Shorncliffe	4	,,
Colchester	4	,,
Portsmouth	2	,,
Devonport	3	,,
Chatham	2	,,
Dover	1	,,
	29	battalions,

and the troops for the 1st Army Corps would be:—

3 brigades and 1 rifle battalion from Aldershot.
1 brigade from Shorncliffe.
1 do. ,, Colchester.
1 do. Guards from London.

There is no necessity to keep troops in the Channel Islands, and these two district staffs could be reduced.

A battalion would then be a "depôt battalion" for half, or nearly half, its period of home service, *i.e.*, for about 8 years. This could be lessened by reducing the period of service abroad. The present tour of 16 years, during which almost the whole *personnel* is changed more than once, is exceedingly long. If it were reduced to 8 years, and men for foreign service were enlisted for longer, battalions might go abroad composed in great part of men who would serve the whole period, and so the annual drafts would be fewer, and reliefs would be mainly carried out by whole battalions. The present term of enlistment is too long for home, too short for foreign, service. If the full term of 21 years were divided into three periods of 7 years each, men might be enlisted for 7 years' colour, and 7 years' reserve service, and on completion of 2 years' service (at home) be called upon to extend their colour service to 14 years, which would involve a tour of 8 years' service abroad. Provided that a sufficient number were to accept this, only men who had so extended their service would be sent abroad, and men not extending their colour service should be liable (in event of the state of recruiting admitting it) to be relegated at any time to the Reserve, there to complete their 14 years. Men of over 14 years' service (colour or reserve) would form the Second-class Reserve, and re-engagement to complete 21 years with the colours could be allowed as now. If the number extending their service were insufficient, the short-service men could be sent to the Colonies, the long-service men being kept for India. Probably enough men could extend their service, and a battalion could go out to India composed mainly of men who would remain with it throughout its service in that country. If the period of foreign service were 8, that at home would be about 9 years, viz., 4 years on reduced strength, and 5 on higher strength.

Although it would be possible to form two army corps entirely from home, we can, nevertheless, reckon that in most cases nine battalions

would be drawn from the Mediterranean; and thus, for the first year of their service on higher strength at home, battalions would not belong to either the 1st or 2nd Army Corps.

The routine of home service would be generally as follows:—

On coming home a battalion would leave behind all men who had not completed their tour of eight years' foreign service; on arrival it would go straight to its brigade depôt station, where it would hand over to the out-going depôt battalion all men above the reduced establishment, the officers and N.C.O.'s of four companies, and the lieut.-colonel himself; it would remain a "depôt battalion" until similarly relieved four years later, when it would in its turn take over from the in-coming depôt battalion, and be raised to eight companies. It would be stationed in Ireland for two years, during the second of which it would belong to the 2nd Army Corps for active service; would next spend rather more than two years in one of the English camps, and belong to the 1st Army Corps; and, lastly, would go for about one year to one of the coast garrisons, where it would be for "lines of communications" or 2nd Army Corps again, and it would here be filled with long-service men preparatory to going abroad. These battalions would be the ones to reinforce the Colonies or India if wanted.

The organisation of the Auxiliary forces is beyond the scope of this essay; suffice it to say that the Militia of each sub-district could be formed into a brigade, generally of three battalions, and the Volunteer brigades might likewise be re-adjusted by sub-districts. As some line regiments would have four Regular battalions, it would be better for the Militia to resume territorial titles, which might be "regimental" or "brigade."

An increase of sixteen new battalions may seem excessive, especially from the financial point of view. It may be presumed, however, that the battalion of the Royal Canadian Regiment stationed in Canada would be supported by that colony, in which case the number of new battalions to be paid for out of Imperial funds would be only fifteen. While, however, adding on one hand 15 battalions, we should on the other reduce 39 to half strength, and also abolish nearly half the existing depôts; so that instead of augmentation we should have actual reduction. In place of 142[1] battalions of 8 companies, *i.e.*, 1,136 companies and 61 depôts, we should have 118[2] battalions of eight and 39 of four companies, *i.e.*, 1,100 companies and 38 depôts. The actual reduction would be 24 lieut.-colonels, 36 companies, and 23 depôts, besides the reduction of the military staffs in the Channel Islands. There would be a further reduction too in the 38 retained depôts, where the staff duties could be performed by the staff of the "depôt-battalion."

Some expense would have to be incurred in building new barracks, but this could be spread over several years, and against this there would be the amount to be realised by the sale of the disused depôt premises.

By means of this or a similar organisation, which would be but a

[1] The 2nd Battalion Cameron Highlanders is counted here.

[2] Including one battalion of the Canadian regiment.

logical development of that of 1881, we should gain the following advantages :—

1. Elasticity, there being a margin of surplus battalions at home sufficient to meet any emergency likely to arise short of a big war.
2. Strong depôts able to fulfil their functions.
3. A number of battalions at home, free from all depôt work, sufficient to form a field army of two corps.
4. Battalions of 1st Army Corps brigaded in camps.
5. A better system of foreign reliefs.

In event of a big war, the depôt battalions could be raised to eight companies, and the depôts proper also be increased to the strength of a battalion ; in a great emergency, then, a brigade could have even four battalions abroad, and a provisional fifth battalion as depôt at home.

We should thus, with little or no increase of cost, establish a military system capable of meeting all the possible requirements of the Empire for many years to come.

TABLE OF PROPOSED INFANTRY BRIGADES.

Sub-District or Brigade.	Territorial Regiments.	Former Nos.	Recruiting Ground.	Depôt.
1. S.E. Scotland	The Royal Scots (Lothian) ... ... (Linked with 21st Brigade)	1	Edinburgh, Haddington, and Linlithgow.	Edinburgh
2. Kent	The Queen's (Royal West Surrey)	2	Kent	Dover
	The Queen's Own (Royal West Kent) ...	50 97		
3. London	The Buffs (East Kent) ... ... (4 Battalions)	3	London	Woolwich
4. Mid-Lancashire ...	The King's Own (Royal Lancaster) ... ... (4 Battalions)	4	Lancashire (Central) ...	Preston
5. Northumbrian	The Northumberland Fusiliers ... ... (4 Battalions)	5	Northumberland & Durham	Newcastle
6. Warwickshire	The Royal Warwickshire ... ... (4 Battalions)	6	Warwickshire	Warwick
7. Surrey	The Royal Fusiliers ... ... (4 Battalions)	7	Surrey	Woking
8. West Lancashire ...	The King's (Liverpool)	8	Lancashire (West)	Warrington
	The Prince of Wales's Volunteers (S. Lancs)	40 82		
9. East Anglian	The Norfolk	9	Norfolk, Cambs, Hunts, and Beds.	Norwich
	The East Lancashire	30 59		
10. North Midland	The Lincolnshire...	10	Lincolnshire, Notts, and Derbyshire.	Nottingham
	The Sherwood Foresters (Derbyshire) ...	45 95		

TABLE OF PROPOSED INFANTRY BRIGADES—*contd.*

Sub-District or Brigade.	Territorial Regiments.	Former Nos.	Recruiting Ground.	Depôt.
11. Devon and Cornwall ...	The Devonshire ... ... The East Surrey	11 31 70	Devon and Cornwall ...	Plymouth
12. Eastern Counties ...	The Suffolk ... ... The Essex...	12 44 56	Suffolk, Essex, and Herts	Warley
13. Western	The Prince Albert's (Somerset L.I.) ... ... The Duke of Cornwall's Light Infantry ...	13 32 46	Somerset and Bristol ...	Bristol
14. Home Counties ...	The Prince of Wales's Own (West Yorks.) The Duke of Cambridge's Own (Middlesex)	14 57 77	Middlesex	Hounslow
15. East York	The East Yorkshire ... ... The Duke of Wellington's (West Riding) ...	15 33 76	Yorkshire (East)	York
16. Hants	The Bedfordshire ... ... The Hampshire	16 37 67	Hampshire & Isle of Wight	Portsmouth
17. Midland	The Leicestershire ... ... The Northamptonshire	17 48 58	Leicestershire, Northhants, and Rutland.	Leicester (or Weedon)
18. East Irish	The Royal Irish ... ... The Royal Irish Rifles	18 83 86	Leinster	Mullingar
19. West York	The Princess of Wales's Own (Yorkshire) ... The York and Lancaster	19 65 84	Yorkshire (West)	Bradford
20. East Lancashire ...	The Lancashire Fusiliers ... ... The Manchester	20 63 96	Lancashire (East)	Manchester

TABLE OF PROPOSED INFANTRY BRIGADES—*contd.*

Sub-District or Brigade.	Territorial Regiments.	Former Nos.	Recruiting Ground.	Depôt.
21. S.W. Scotland	The Royal Scots Fusiliers ... ... (Joined to 1st Brigade)	21	Ayr, Wigtown, and Renfrew	Edinburgh
22. Cheshire...	The Cheshire	22	Cheshire	Chester
	The Loyal North Lancashire	47 81		
23. Welsh	The Royal Welsh Fusiliers ... ... (4 Battalions)	23	Wales, Monmouthshire, Hereford, and Shropshire	Pembroke
24. Welsh Border	The South Wales Borderers	24		Brecon
	The Welsh	41 69		
25. Scotch Border	The King's Own Scottish Borderers... ...	25	Scotch Border Counties, Cumberland, Westmoreland, North Lancashire, and Isle of Man	Carlisle
	The Border Regiment	34 55		
26. Lanarkshire	The Cameronians (Scottish Rifle)	26 90	Lanarkshire	Glasgow
	The 2nd Bn. Connaught Rangers ... ... (a new Battalion)	94		
27. North Irish	The Royal Inniskilling Fusiliers	27 108	Ulster (except Donegal, Cavan, and Fermanagh)	Newry
	Princess Victoria's (Royal Irish Fusiliers) ...	87 89		
28. West Midland	The Gloucestershire	28 61	Gloucester (without Bristol) Worcestershire	Worcester
	The Worcestershire	29 36		
29. Sussex	The Royal Sussex	35 107	Sussex	Brighton
	Princess Charlotte of Wales's (Royal Berks)	49 66		
30. Staffordshire	The South Staffordshire	38 80	Staffordshire...	Lichfield
	The Prince of Wales's (North Staffordshire)	64 98		

TABLE OF PROPOSED INFANTRY BRIGADES—*contd.*

Sub-District or Brigade.	Territorial Regiments.	Former Nos.	Recruiting Ground.	Depôt.
31. Dorset and Wilts ...	The Dorsetshire	39 54	Dorset and Wilts	Portland
	The Duke of Edinburgh's (Wiltshire) ...	62 99		
32. Thames Valley	The Oxfordshire Light Infantry	43 52	Berkshire, Bucks, and Oxon	Reading
	The Durham Light Infantry	68 106		
33. South York	The King's Own (Yorkshire Light Infantry)	51 105	Yorkshire (South)	Sheffield
	The King's (Shropshire Light Infantry) ...	53 [illegible]		
34. South Highland ...	The Black Watch (Royal Highlanders) ...	42 73		Perth
	The Q.O. Cameron Highlanders (2 Batts.)...	79		
35. East Highland	The Highland Light Infantry	71 74	Scotland—North of Forth and Clyde	Aberdeen
	The Gordon Highlanders	75 92		
36. North & West Highland	The Seaforth Highlanders (Ross-shire Buffs, Duke of Albany's)	72 78		Inverness
	Princess Louise's (Argyll and Sutherland Highlanders)	91 93		
37. West Irish	The Connaught Rangers, 1st Batt. } 2 new	88	Connaught, Donegal, Cavan, and Fermanagh	Athlone
	The P.W. Leinster Regt., 2nd Batt. } Batts.	109		
38. South Irish	The Royal Munster Fusiliers	101 104	Munster	Fermoy
	The Royal Dublin Fusiliers	102 103		
39. Rifle	The King's Royal Rifle Corps	60	—	Winchester
	The Rifle Brigade (The P.C.O.)			

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Vice-Admiral—H. F. Stephenson, C.B., to Command of Channel Squadron. Rear-Admiral—J. Fellowes, C.B., to Second-in-command of Channel Squadron. Captains—E. S. Poë, M.V.O., to "Victorious"; A. W. Moore, C.M.G., to "Renown"; F. G. Kirby to "Phaeton"; E. H. Davis, C.M.G., to "Royal Sovereign," and then to "Trafalgar"; F. F. Fegen to "Leander"; A. Macleod to "Jupiter"; R. H. Henderson, C.B., to "Mars"; C. Campbell, C.B., D.S.O., to "Empress of India"; H. A. Onslow to "Theseus." Commanders—W. De Salis to "Haughty"; W. H. Nicholson to "Lightning"; A. H. Shirley to "Decoy"; H. J. Keane, C.M.G., to "Barracouta"; F. W. Keary to "Swallow."

Vice-Admiral H. F. Stephenson, C.B., hoisted his flag on board the "Majestic" as senior officer in command of Channel Squadron in succession to Vice-Admiral Lord Walter Kerr on the 7th inst., and Rear-Admiral J. Fellowes, C.B., his on board the "Magnificent" as second-in-command in succession to Rear-Admiral Powlett, invalided, on the 19th ult. Rear-Admiral H. L. Pearson has also hoisted his flag on board the first-class battle-ship "Sans Pareil," as second-in-command of Reserve Squadron. The new first-class battle-ships "Mars" and "Jupiter" commissioned on the 8th inst. at Portsmouth and Chatham respectively for service with the Channel Squadron, the officers and men of the "Royal Sovereign" turning over to the "Mars," and of the "Empress of India" to the "Jupiter." Both the "Royal Sovereign" and "Empress of India" have been recommissioned, the first to relieve the "Trafalgar" in the Mediterranean, and the second to relieve the "Rodney" on the same station, but these changes will not take place until after the manœuvres. On her return to England the "Trafalgar" will take the place of the "Inflexible" at Portsmouth; while the "Rodney" will take the place of the "Edinburgh" as first-reserve ship at Queensferry, the officers and crew of the latter turning over to her. The second-class cruisers "Leander" and "Phaeton" have been commissioned, and are to proceed to the Pacific, relieving the third-class cruiser "Comus" and the old wooden sloop "Wild Swan"; the substitution of the "Leander" and "Phaeton" for the older ships adds materially to the strength of the squadron on that station. The first-class cruiser "Theseus" has arrived from the Mediterranean, and after the manœuvres is to pay off. The second-class cruiser "Spartan," which arrived from China last month, paid off at Devonport on the 5th. The first-class cruiser "Endymion," and the second-class cruisers "Minerva" and "Flora," have arrived, the first two with the relieved crews of the "Centurion" from China, and the last-named with those of the "Tauranga" and "Karakatta" from Australia; all these ships will remain in commission until after the Naval Review. The second-class cruiser "Bonaventure," lately flag-ship in the East Indies, and the third-class cruiser "Marathon" from the same station, have arrived, and will pay off after the review. The third-class cruiser "Barracouta" has been commissioned, and will relieve the third-class cruiser "Racoon" on the Cape of Good Hope station; while the sloop "Swallow" has also been commissioned to relieve the "Acorn," a sister-ship on the east coast of America.

The third-class cruiser "Pyramus" was launched on the 15th ult. from the Howdon yard of Palmer's Shipbuilding and Iron Company, Jarrow-on-Tyne. Her dimensions are as follows:—Length, 300 feet; breadth moulded, 36½ feet; depth,

21 feet; draught, 13½ feet; displacement, 2,135 tons; and speed 20 knots, with 7,000-I.H.P. At the same yard, on the same day, the "Flirt," torpedo-boat destroyer, was also launched. The dimensions of the "Flirt" are:—Length, 215 feet; breadth moulded, 20 feet 9 inches; depth, 12 feet 10 inches; draught, 5 feet 5 inches; displacement, 300 tons; speed, 30 knots, with 5,900-I.H.P.

On May 19th the new torpedo-boat destroyer "Earnest" made her official full-power coal consumption trial at 30 knots, with very satisfactory results, a mean speed of 30·38 knots being realised during the six runs on the measured mile at Skelmorlie, and of 30·1 knots for the three hours, the coal consumption per H.P. per hour being within the contract conditions. On the 24th May she went out for her official full-power speed trial. A mean speed of 30·19 knots was attained on the six runs on the measured mile, which were as follows:—First mile, 1 min. 58½ secs., 30·38; second mile, 1 min. 58½ secs., 30·38; third mile, 1 min. 59 secs., 30·26; fourth mile, 2 mins. 1 sec., 29·75; fifth mile, 1 min. 58 secs., 30·51; sixth mile, 2 min., 30·00. The speed for the three hours' continuous steaming was 30·12 knots. After the completion of the three hours' trial the vessel was taken outside Cumbrae Light to make her steering trials, all of which were carried out most satisfactorily. The "Earnest," which has now concluded all her official trials, is the ninth 30-knot destroyer that Messrs. Laird Bros. have passed successfully through their official trials, and delivered to our own and other Governments. On the 25th May a sister-vessel, the "Griffon," built by the same firm, ran her official full-power coal consumption trial at 30 knots. The speed realised on six runs on the mile at Skelmorlie was 30·04 knots as follows:—First mile, 1 min. 59 secs., 30·26; second mile, 2 mins. 0½ sec., 29·88; third mile, 1 min. 59 secs., 30·26; fourth mile, 2 mins. 0½ sec., 29·88; fifth mile, 1 min. 59 secs., 30·26; sixth mile, 2 mins. 1 sec., 29·75; and for the three hours' continuous steaming, 30·02 knots. The trial was not only successful, but satisfactory in every way, and the full-power speed trial will follow shortly. The new torpedo-boat destroyer "Whiting," built and engined by Palmer's Shipbuilding Company, Jarrow-on-Tyne, has carried out her official trials at Portsmouth. Her mean speed was 30·157 knots for three hours, and her highest speed on the measured mile was 32·84 knots, which was made with the tide and against the wind. The mean revolutions for the three hours were 392·7 per minute. At her second speed trial the engines developed 6,231-H.P. At the first trial her coal consumption was approximately 2·5 lbs. per unit of power per hour, which was in accordance with the stipulation of the Admiralty; but at the last trial there was no restriction as to consumption. The harbour was left at 8.30, and the trial was begun at 9.30, when the stipulated speed of 30 knots was at once realised, the mean of six runs on the measured mile being 30·42 knots, and the mean of the three hours' trial 30·21 knots, which was obtained with 397·95 revolutions. There was scarcely any wind, but there was a 2-knot tide. The new torpedo-boat destroyer "Foam" has also completed her three hours' full-power trial to test the endurance of her machinery, as on the previous trial one of her pipes developed defects. The trial proved thoroughly successful, the machinery standing the test well. A mean speed of 30 knots was obtained. The steam pressure in boilers was 208 lbs. per square inch; revolutions per minute, 394·6 starboard and 389·6 port; mean I.H.P., 2,786 starboard and 2,871 port—total, 5,657.

Since the introduction of torpedo-boat destroyers considerable inconvenience has been experienced in consequence of the excessive vibration which is set up when these vessels are steaming at high speed. Various experiments have been carried out by the dockyard officials and naval engineers with a view to discover some means to overcome the difficulty, and in some cases the vibration has been somewhat reduced. Messrs. Laird Bros., of Birkenhead, who have already completed several destroyers of various types, and have four more in course of completion, have

apparently solved the problem by a series of successful experiments in the "Quail," a 30-knot destroyer, recently delivered at Devonport. This vessel underwent a trial with two balanced weights, weighing collectively 540 lbs., fitted to her high-pressure crank webs, whilst two more weights, weighing collectively 645 lbs., were attached to her low-pressure crank webs. The engines were run at various revolutions up to their full speed, and the corresponding vibration of the vessel was noted. It was found that the vibration, both horizontal and vertical, at a speed of 280 revolutions, was only one-half that which had been recorded before the balance weights had been fitted, whilst the engines ran steadily throughout.

Last month a plate, 8 feet by 6 feet by 6 inches thick, made of nickel steel Harveyized, by Messrs. Vickers, Sons, and Co., was tested on board the "Nettle," and the results in its resistance both to penetration and cracking were excellent. The gun used was a 6-inch B.L. gun, the charge of powder 48 lbs., with 100-lb. Holtzer projectiles, having a striking velocity of 1,960 feet-seconds. The distance of the gun from the plate was 30 feet. Five rounds were fired, with the result that all the projectiles were broken to fine pieces and greatly spattered on the face of the plate. The greatest penetration was 2 inches, which could be measured exactly, as the face of the plate showed in every case. No cracks were formed, and the plate was accepted as having thoroughly fulfilled all the conditions.

The Admiralty have just issued a revised edition of the "Regulations for the Government of Her Majesty's Dockyards at Home." The provisions are of a very important nature. The commander-in-chief, or senior officer, has, in the general transactions of the Service, authority and control over all naval civil establishments within the limits of his command, but is not to interfere with the management of those establishments where there are superintendents, unless a particular and sufficient cause should, in his opinion, render it necessary, in which case he is to report to the Admiralty the nature of the order given, and his reasons for interfering. If, however, the superintendent considers that any public inconvenience is likely to arise from compliance with the commander-in-chief's orders, he is to represent it to him, stating the objections, after which, if the order is persisted in, it is to be obeyed without further delay or discussion, the commander-in-chief becoming wholly responsible to the Admiralty for the measure; but the superintendent may, if he thinks proper, send to the Admiralty any observations which he may be desirous to submit for consideration. The Admiralty state that the provisions of the Factory and Workshop Acts shall be observed in the dockyards, and direct the superintendents to report any deviation from their spirit to them. Very definite instructions are also given as to the exhibition in conspicuous places of printed and written regulations for the government of the workpeople. Superintendents are reminded that whilst they are, by virtue of their office, justices of the peace in respect of certain offences relating to Her Majesty's Naval Service, "and the stores, provisions, and accounts thereof," they have not now the power to deal single-handed with the various offences against Crown property. The regulations relating to disciplinary matters, and to the disclosure of confidential communications relating to the public service to the Press and others, are practically the same as those hitherto in force. The regulations also set out very fully the general duties of officers; office hours, holidays, and leave of absence; the rules to be observed with respect to "hurts and sickness," the admission of strangers and visitors to the dockyards, and the entry and discharge of workpeople. Separate chapters are also devoted to other subjects, the regulations being of a very comprehensive character, and covering every department in the dockyards.

The new Regulations for the Entry of Naval Cadets which are to come into force for the examination to be held in December, 1897, and to remain in force thenceforth, have just been issued. The following are the chief points in which

they differ from those to be found in the quarterly Navy List last published. Instead of four cadetships given annually to sons of gentlemen in the Colonies, the number is now raised to six, and the number of service cadetships is raised from five to seven. Candidates for colonial or service cadetships must be of pure European descent, and the sons either of natural-born British subjects or of parents naturalised in the United Kingdom. The nominations and examinations will take place thrice instead of twice a year, the latter being held in March, July, and December, about six weeks before the commencing of each term, and the appointments will date from January 15th, May 15th, and September 15th respectively.

The limits of age will be as follows :—

Date of Entry.	Lower limit of age.	Higher limit of age.
January 15th, 1898	14	15½
May 15th, 1898, and thenceforth	14½	15½

Candidates must be within these limits of age at the time of entry. They will be examined in (Class I.) mathematics, English, Latin, French, English history, and geography, and in order to qualify must obtain 40 per cent. of the marks in arithmetic, algebra, and geometry respectively, and 40 per cent. of the aggregate marks for all subjects. Candidates will also be permitted to present themselves for examination in (Class II.) drawing and in other subjects of the following :— Higher mathematics, German, and natural science, for which they will be able to gain additional marks.

Colonial and service candidates will be required to obtain 40 per cent. of the marks allotted to each of the following subjects :—Arithmetic, algebra, and geometry, as well as 40 per cent. of the aggregate marks, under Class I. A candidate who qualifies under Class I., but does not succeed in the competition, will be entitled to compete at the next examination, provided he is within the limits of age at that time. A candidate who fails to qualify will not be entitled to another trial, but will be allowed to compete at the next examination if he receives a fresh nomination and is still within the limits of age. There are several other slight alterations, mainly caused by the above changes ; the following is the most important :—Cadets will, on passing out of the "Britannia," rank according to the amount of sea time they obtain at their final examination, and those who obtain equal amounts of sea time will rank in the order of merit in which they pass out of the "Britannia." Sea time will be awarded according to the following scale :—

Classes obtained.	Mathematics and Navigation.	Extra Subjects.	Seamanship.	Conduct.
1st Class	3 months	2 months	1 month	{ Very good. 2 months
2nd Class	2 months	1 month	—	{ Good. 1 month

The report by the Hydrographer of the Admiralty of the work performed, under the direction of the Lords Commissioners of the Admiralty, during the year 1896 in the examination and charting of the seas and coasts, in various parts of the globe, has just been issued as a Blue Book. It states that the number of officers of all ranks employed in the several vessels engaged in the surveys amounted to sixty-nine (of whom forty-six are surveying officers), and their crews to 639. The expenses of the Queensland survey are shared between the Imperial and Colonial Governments. Naval surveying officers are also employed, with the sanction of the Admiralty, under the Indian Government. Brief allusion to their labours

during 1896 is made. Notwithstanding the progress of hydrography, and the constant employment of our own and foreign surveying vessels in many parts of the world, the requirements of modern steam navigation increase more rapidly than the advance of surveys. Every year newly discovered rocks are reported, the number of which shows no signs of diminishing. During the year 1896 no less than 209 rocks and shoals which were dangerous to navigation were reported and required to be notified to the public by notices to mariners. Of these, 17 were reported by surveying vessels, 15 by other of Her Majesty's ships, 17 by various British and foreign vessels, 21 were discovered by vessels striking on them, and 139 were reported by colonial and foreign Governments. The turn-out of work of surveying vessels during the past season has been very satisfactory, and all the ships employed have taken full advantage of the generally favourable weather; while the officers of Her Majesty's ships, other than surveying vessels, still continue to help by sending in plans and sketch surveys of places which they visit. A re-survey of the Downs, Goodwin sands, and adjacent coast, was taken in hand, on a scale of 2 inches to the mile, and completed on September 23rd. Considerable alterations were found to have taken place in the off-lying banks since last examined in 1887. The Goodwin sand has continued its general movement towards the coast, and the area of drying sand has very largely increased since 1887, when only small parts of the bank were above low water. The detailed change is as follows:- The Goodwin knoll has extended about two cables further to the northward. The north, north-west, and west sides of the sands have extended outward, while the Fork is growing to the southward. The north-east shoulder of the sands has moved to the southward, while a great portion of the east side now dries at low water. The South Calliper has extended to the eastward and sonthward.

The following are the principal appointments to ships in connection with the Jubilee Review and the Naval Manœuvres: Rear-Admiral—H. L. Pearson, as Second-in-command of Reserve Squadron. Captains—H. M. Tudor to "Æolus"; J. G. Field to "Andromache"; P. F. Tillard to "Apollo"; J. E. C. Goodrich to "Aurora"; F. J. Foley to "Brilliant"; H. C. Bigge to "Diana"; G. M. Henderson to "Dido"; L. F. Royle, D.S.O., to "Doris"; W. S. Goodridge to "Isis"; A. L. Winsloe to "Juno"; J. Denison to "Latona"; F. O. Pike to "Magicienne"; R. R. Neeld to "Naiad"; C. H. Cochran to "Sappho"; L. C. Stewart to "Sirius"; G. H. Cherry to "Spartan"; J. L. Marx to "Terpsichore"; R. L. Groome to "Terrible"; R. S. Rolleston to "Thetis"; J. E. Bearcroft to "Tribune"; A. W. Prothero to "Venus"; Sir A. B. Milne, Bart., to "Warspite." Commanders—C. Burney to "Minotaur"; A. H. Anson to "Landrail"; F. T. Hamilton to "Hazard"; and F. H. Freeman to "Curlew."

The following is a complete list of the ships and vessels that will assemble at Spithead by June 22nd, in readiness for the review that will be held four days later. Of the ships named, the "Royal Arthur" is to remain in commission and to act as guardship for her Majesty at Cowes should she be required. Immediately after the review the "Barracouta" is to proceed to the south-east coast of America, and neither the "Minerva," the "Bonaventure," the "Pelorus," nor any of the vessels named in this list after the "Speedy," torpedo gun-boat, will take part in the subsequent manœuvres. All ships temporarily commissioned and not taking part in the manœuvres are ordered to proceed to their respective ports to pay off or revert to their original positions as tenders. At the review the British fleet will be represented by 165 pennants:—

First-class battle-ships—"Majestic," "Magnificent," "Prince George," "Mars," "Jupiter," "Victorious," "Repulse," "Resolution," "Royal Sovereign," "Empress of India," "Renown," "Collingwood," "Benbow," "Howe," and "Sans Pareil"—15.

Second-class battle-ships—"Alexandra," "Colossus," "Edinburgh," "Inflexible," "Devastation," and "Thunderer"—6.

First-class cruisers—"Blake," "Blenheim," "Australia," "Galatea," "Powerful," "Terrible," "Royal Arthur," "Endymion," "Edgar," "Warspite," and "Aurora"—11.

Second-class cruisers—"Hermione," "Charybdis," "Mersey," "Melampus," "Æolus," "Spartan," "Minerva," "Flora," "Bonaventure," "Naiad," "Latona," "Venus," "Diana," "Dido," "Isis," "Phaeton," "Leander," "Apollo," "Andromache," "Thetis," "Tribune," "Terpsichore," "Brilliant," "Sappho," "Juno," "Doris," and "Sirius"—27.

Third-class cruisers—"Pelorus," "Medea," "Medusa," "Magicienne," and "Barracouta"—5.

Torpedo gun-boats—"Halycon," "Speedy," "Jaseur," "Spanker," "Niger," "Leda," "Sheldrake," "Renard," "Onyx," "Circe," "Gossamer," "Jason," "Sharpshooter," "Spider," "Alarm," "Antelope," "Hazard," "Skipjack," "Gleaner," and "Rattlesnake"—20.

Gun-vessels—"Curlew" and "Landrail"—2.

Gun-boats—"Raven," "Cockchafer," and "Starling"—3.

Torpedo-boat destroyers—"Hasty," "Lightning," "Hunter," "Ranger," "Hardy," "Contest," "Janus," "Sturgeon," "Salmon," "Snapper," "Haughty," "Decoy," "Ferret," "Lynx," "Daring," "Skate," "Sunfish," "Opossum," "Quail," "Virago," "Thrasher," "Sparrowhawk," "Desperate," "Fame," "Havock," "Hornet," "Spitfire," "Rocket," "Foam," and "Whiting"—30.

Torpedo-boats—Nos. 64, 65, 67, 68, 72, 73, 74 (now at Sheerness), 66, 71, 76, 77, 79, 81, 83 (now at Portsmouth), 52, 53, 55, 57, 58, 85 (now at Devonport)—20.

Training Squadron (ships and brigs)—"Active," "Volage," "Calypso," "Champion," "Northampton," "Calliope," "Curaçoa," "Agincourt," "Minotaur," "Black Prince," "Racer," "Wanderer," "Martin," "Sealark," "Seaflower," "Pilot," "Nautilus," and "Liberty"—18.

Special service vessels—"Hearty," "Jackal," "Albacore," "Magnet," "Traveller," "Seahorse," "Research," and "Triton"—8.

—*Times* and *Naval and Military Record*.

The following foreign men-of-war will also be present at the Review:—

Country.	*Ships.*		*Flag-Officers.*
Austria-Hungary	—Coast-defence battle-ship	"Wien."	—Vice-Admiral H. Freiherr von Spaun.
Italy	—First-class battle-ship	"Lepanto."	—Vice-Admiral C. Morin.
France	—First-class armoured-cruiser	"Amiral Pothuau."	—Rear-Admiral De Courthille.
Russia	— ,, ,,	"Rossiya."	—Rear-Admiral Skrydlow.
United States	— ,, ,,	"Brooklyn."	—Rear-Admiral Miller.
Germany	— ,, ,,	"König Wilhelm."	—Rear-Admiral H.R.H. Prince Henry of Prussia.
Spain	— ,, ,,	"Viscaya."	—Rear-Admiral Don Sigismund Bermejo.
Netherlands	—Coast-defence battle-ship	"Evertsen."	—Rear-Admiral Engelbrecht.
Denmark	—Second-class battle-ship	"Helgoland."	—Rear-Admiral Koch.
Japan	—First-class battle-ship	"Fuji."	—Flag-officer not yet named.
Portugal	—Armoured corvette	"Vasco di Gama."	— ,,
Sweden	—Training ,,	"Freya."	— ,,
Norway	—Ship not settled		— ,,
Siam	—Royal yacht	"Maha Chakri."	— ,,

The Naval Manœuvres of 1896, Umpire's Report :—

The Umpire's report and decisions in regard to the Manœuvres of 1896 have been issued as a Parliamentary Paper. It is signed by Vice-Admiral Tracey, and Rear-Admirals Fellowes and Lake, and proceeds as follows :—

"In accordance with their lordships' order of 4th July, M., nominating us as umpires in connection with the Naval Manœuvres, we have the honour to report that we held our first meeting on Thursday, 23rd July. We enclose a list of the claims submitted to us, and our decisions thereon.

"For the purposes of these manœuvres, the ships mobilised were divided into four fleets, hereafter called A, B, C, and D. Of these fleets A and B represented the defending fleet, C and D the hostile fleets ; fleets A and C were ready for sea at the declaration of war, the battle-ships of B and D forty-eight hours after war was declared. Fleets A and B were allotted a strong force of torpedo-boat destroyers and no torpedo-boats ; fleets C and D a strong force of torpedo-boats and no destroyers, the object being apparently to test the value of the destroyers against the torpedo-boats.

"The operations were limited to the following area :—49° to 56° N. latitude, 2° to 15° W. longitude. Within these limits all the coast and ports of Ireland and Portland were friendly to the defending fleet (A and B), and all the coast and ports of Great Britain and Lough Swilly were friendly to the hostile fleet (C and D).

"The bases allotted to the fleets were :—

"To A and B : Berehaven and Dublin Bay ;

"To C and D : Milford Haven and Tor Bay ;

these ports, together with Portland and Lough Swilly, represented secure, fortified forts. Coastguard stations on either coast were allowed to be made use of for conveying information to the respective admirals, and an intelligence officer placed at Queenstown and Milford Haven to collect and forward information.

"The general idea[1] of the manœuvres of 1896 is attractive, and affords opportunities of gaining instruction in almost every point of naval warfare. The shortness of time between the receipt of the telegram, "Prepare for hostilities," and their commencement, gave an advantage to C, of which the Admiral in command availed himself by weighing his ships as soon as the rules permitted, and proceeding to sea unwatched by A's cruisers. This enabled him to effect his junction with D

[1] The general idea was as follows :—Four fleets to be engaged in the manœuvres—Fleets A and B on the one side and Fleets C and D on the other. The operations to take place in the following area—between latitudes 49° and 56° N. and longitudes 2° and 15° W.

On the commencement of the exercise, equivalent to a declaration of war or commencement of hostilities—

Fleet C to be at Milford Haven watched by the cruisers and destroyers of Fleet A, which will be lying in readiness at Berehaven. Fleet B, which was to co-operate with A, to be in Dublin Bay, "being organised." This was to be known to C, but the strength of it, and that it cannot put to sea for forty-eight hours, was only known to A. Fleet D, which was to co-operate with C, to be at Tor Bay, "being organised," unknown for twenty-four hours to A or B, and its number and inability to put to sea for forty-eight hours to be only known to C. All the coast of Ireland (with the exception of Lough Swilly) and Portland to be friendly to A and B and hostile to C and D. With the exception of Portland all the coast of England (within the defined area) and Lough Swilly to be friendly to C and D, and hostile to A and B. A's objective was, first, to get C out and defeat him ; secondly, when he learned of the existence of D fleet, to prevent the junction of C and D until he had been joined by B ; thirdly, to prevent C and D finding safety in Lough Swilly. C's objective was, first, to unite with D and defeat A if he met him unsupported ; secondly, failing in this object, to get to Lough Swilly, either singly or combined with D, before the sixth day.

unreported. Leaving Tor Bay with his combined fleet when authorised to do so under the rules, he was enabled to reach Lough Swilly without opposition at 6 a.m. on the 30th July, two hours before the conclusion of hostilities. He was in this materially assisted by the conditions of both wind and weather. The engagement between "Thetis," a second-class cruiser, on the one side, and "Seagull," a torpedo gun-boat, and her torpedo flotilla, on the other, is of great interest, and affords considerable instruction, showing how almost impossible it is for a torpedo-boat attack to be successful in broad daylight against a cruiser of great speed, carrying, in addition to her heavy armament, a number of Q F. guns. During the action, lasting one hour one minute, several torpedoes were fired, but not one of which struck the "Thetis," until one was fired from torpedo-boat No. 79; but when this was discharged the boat had been out of action a quarter of an hour. Out of the twenty-four torpedo-boats employed in the manœuvres thirteen have been destroyed; six by H.M.S. "Thetis," six by destroyers, and one by the "Repulse." Out of the twenty-four torpedo-boat destroyers engaged, but one (name unknown) has been captured; this capture was effected by H.M.S. "Colossus," the claim made by that ship having been allowed."

In conclusion, the Umpires submit the following:—

"A's objectives were:—First.—To get C out and defeat him. Secondly.—To prevent the junction of C and D Fleets. Lastly.—To prevent C and D finding safety in Lough Swilly.

"Owing to the course pursued by C in joining D directly the rules allowed him to do so, the first two were rendered impossible. In the third he was unsuccessful. C was able, by adopting the course he did, to join D without, as we have previously shown, A's being able to prevent him. But as C and D combined were enabled to enter Lough Swilly without opposition, the success of the campaign rests with C.

"With reference to the action of the "Australia" and "Terpsichore" on the one side, and the three second-class cruisers, "Apollo," "Sirius," and "Naiad," on the other, there seems to have been no reason why the senior officer of the three cruisers should not, when "Terpsichore" parted from her consort, have despatched one of his vessels in chase, as, under the rules, two second-class cruisers can put a first-class cruiser out of action, and, as they were superior in speed, there was no doubt as to this being effected, while it was quite possible that, after having captured "Australia," one at least of the second-class cruisers could have been despatched to aid the one engaging "Terpsichore," which ship, doubtless, in manœuvring during her engagement, could not have reached a great distance from the others when "Australia" surrendered, and this is the course which would probably have been adopted in actual warfare. With regard to the use made of cruisers and destroyers for obtaining and communicating information, nothing has reached the umpires which enables us to give an opinion."

FRANCE.—The following are the principal promotions and appointments which have been made: Capitaine de Vaisseau—J. P. Nabona to Rear-Admiral. Capitaine de Frégate—J. J. A. Granier to Capitaine de Vaisseau. Capitaines de Vaisseau—R. C. M. Cordier to "Dévastation"; J. Bellue to "Amiral-Charner"; L. Borel de Brétizel to "Pascal"; J. E. Merleaux-Ponty to "Marceau"; E. A. Marquer to "Neptune;" M. L. M. Vidal to "Indomptable"; E. L. Delaunay to "Bretagne." Capitaines de Frégate—G. E. Lecompte to command of Naval Division in Corsica; E. A. Masseau to command of Fixed Defences at Lorient; F. A. V. Journet to "Sainte-Barbe" and command of Mobile Defence of Dunkirk. —*Le Moniteur de la Flotte.*

The new first-class battle-ship "Charles-Martel" has made a very successful full-speed trial off Toulon; the engines developed 14,996-I.H.P., giving a mean speed of 18·13 knots, with a coal consumption of 0·796 kilogramme per H.P. per

hour. The coast-defence battle-ship "Indomptable," having received her new boilers and completed her repairs, commissioned at Toulon on the 15th ult. to relieve a sister-ship, the "Caïman," in the Squadron of the Reserve. which, in her turn, passes into the second category of the Reserve, and will receive new boilers besides undergoing a thorough overhaul and repair. The first-class battle-ship "Hoche" is to be paid off early next year at Brest, when she will have Belleville water-tube boilers substituted for her present cylindrical ones of the old Admiralty type; there will be sixteen of the new boilers disposed in four groups; it is hoped that the new boilers will increase the fighting value of the battle-ship, as the old boilers have never developed the 12,000-I.H.P. which they were intended to do, 11,000-I.H.P. being the highest recorded, giving a speed of 15·9 knots; a serious accident occurred on board this ship on the 10th ult.; when hoisting out a large picket-boat the forepart of the slings carried away, and the boat fell, bows first, into the water from a height of 20 feet, and, in falling, struck the projecting chase of a gun, receiving serious damages; four men were in the boat at the time, one of whom was killed, and two severely injured; the man who escaped unhurt managed to cling to the davits, and remained suspended in the air; an inquiry into the cause of the accident has been ordered. The repairs of the coast-defence battle-ships "Requin" and "Furieux" are proceeding at Cherbourg; the "Requin" was to have had two 34-centimetre (model 1893) (13·3-inch) guns of 35 calibres, but she is now to receive two 27-centimetre (10·8-inch) guns of a new design, while the "Furieux" is to have her 34-centimetre guns replaced by 24-centimetre (9·4-inch) guns of a new model; the new guns, however, although smaller, have a higher velocity and greater penetrating power than the old ones, while the saving in weight will enable armoured hoods to be fitted over the barbettes. The first-class battle-ship "Amiral-Baudin," at present attached to the Active Squadron of the Mediterranean fleet, is, after the manœuvres, to be sent to Brest, where she will be paid off to undergo a thorough overhaul and receive new boilers; among other alterations the midships 37-centimetre (14.5-inch) gun with its barbette is to be removed, and a small redoubt, armoured with light Harveyized steel, erected in place, in which four 16·4-centimetre (6·3-inch) Q.F. guns will be mounted. The first-class cruiser "Isly" has arrived at Brest from China; she left Saigon on the 16th March arriving at Brest on the 29th April, having maintained a mean speed of 13 knots during the voyage home with an average daily consumption of coal of 72 tons; the ship is to be paid off, but will not require much repair. The Special Commission has definitely decided to reject the cylindrical boilers of the new torpedo-vessel "Fleurus"; she will be paid off again at Cherbourg, and this time water-tube boilers will be supplied to her, with which it is hoped that the unfortunate vessel will be able to make 19 knots. Rapid progress is being made at Brest with the new first-class battle-ship "Charlemagne" and it is hoped she will be ready for her trials by the end of the year. The Trial Commission has reported that the new second-class cruiser "D'Assas" draws more water than she ought to do by the specifications, and also that her stability is not absolutely assured under certain conditions; the Commission suggest that the necessary alterations and modifications should be carried out at the expense of the builders. The torpedo-aviso "Ste. Barbe" is to be attached to the Défense Mobile of Dunkirk, as parent-ship for the group of six torpedo-boats, stationed at that port; of these three are kept in full commission and three in reserve; the armoured gun-boat "Flamme" is also attached to the port in the second category of the reserve. The new first-class armoured cruiser "Pothuau" was commissioned on the 5th inst. at Cherbourg, and will represent the French Navy at the Review at Spithead. Rear-Admiral de Courthille has hoisted his flag on board her for the occasion.

Two torpedo-boat destroyers to be called the "D'Espingole" and "Fauconneau" have been ordered to be constructed at Havre; they will have a displacement of 311 tons, with a length of 180 feet, and a beam of 19 feet 6 inches,

while the machinery is to develop 4,800-I.H.P., giving a speed of 26 knots, with a radius of action of 1,300 miles at a speed of 14 knots; the armament will consist of one 6-pounder and six 3-pounder Q.F. guns with two torpedo-tubes. Cherbourg has been ordered to commence two first-class torpedo-boats of the Normand type of 85 tons. This is a new departure, torpedo-boats having hitherto always been built by contract. The innovation is not due to a wish to compete with private firms, and the change has been decided upon with a view to creating a body of skilled workmen in the Government arsenals capable of dealing with the repairs of these delicate craft. Hitherto it has been found necessary whenever a torpedo-boat required considerable repairs to send it off to the builders, and it is thought that in time of war with the enemy's fleet at sea this course might be very inconvenient, if not impossible to pursue. For the above reasons it is also intended shortly to commence two torpedo-boats at Toulon.

The condition of the French Navy, and the question of voting large supplementary credits for its increase, continues to excite public interest in France, and since the re-assembling of the Chamber on 18th May, Vice-Admiral Besnard, Minister of Marine, has had to give frequent explanations as to the Government proposals. In one of these he stated that the question of the defence of the coaling stations abroad, though a matter of great importance, must be kept apart, and should form the object of a separate motion.

As it has been previously stated in these Notes, two projects are before the Commission of the Marine in the Chamber for increasing the French Navy. That of Vice-Admiral Besnard for the Government, and that of M. Lockroy for the Opposition. It appears that the Commission has joined the two projects, and decided as follows:—

1. The adoption of the proposal of a credit of 40 millions of francs for military ports of refuge submitted by M. Lockroy, without following him so far as to specially designate where these ports should be, beyond saying they should be at Corsica, Tunis, Dakar, Martinique, Saigon, and Algeria.
2. The appropriation of 20 millions of francs for the repair of ships actually in the Service.
3. The approval of a sum of 200 millions for new constructions, the full programme of the ships to be constructed being left to the consideration of the Grand Council of the Navy.

Altogether these credits amount to 260 millions of francs to be spread over several years.

The new port of Sfax in Tunis was formally opened on the 24th April by the Ministers of Commerce and Finance, accompanied by the Resident-General, who were conveyed on board the second-class cruiser "Maréchal-Bugeaud" from Marseilles to the new harbour. The new port is connected with the sea by a channel, which has been dredged out to have a depth of 21 feet at lowest state of the tide. The channel is 3,500 yards long, and is 72 feet wide at the surface, and leads into a basin with a superficial surface of 20,000 acres. Three large quays have been constructed, one 1,200 feet long, one 750 feet, and the third 500 feet in length.—*Le Temps, Le Yacht,* and *Le Moniteur de la Flotte.*

ITALY.—The following are the principal promotions and appointments which have been made: Rear-Admirals—L. Serra, F. Cobianchi, to be Vice-Admirals; C. de Lignori, on the Reserved List, temporarily recalled to Active List; C. A. Gualterio to Command of Second Division of Active Squadron. Captains—C. Farina, G. Bettolo, to be Rear-Admirals; G. Annovazzi to be Director of Torpedoes; C. V. Palermo to Command of Local Defences at Taranto. Frigate-Captains—F. Gavotti, A. Settembrini, A. Pignone del Carretto, and G. Vialardi di Villanova to be Captains.—*Gazzetta Ufficiale.*

The Active Division of the Fleet, under the command of Vice-Admiral N. Canevaro, has been constituted as follows:—

First Division—
- First-class battle-ships—"Sicilia" (flag-ship of Vice-Admiral Commanding), "Sardegna," and "Re Umberto."
- Second-class cruisers —"Giovanni Bausan" and "Vesuvio."
- Torpedo cruisers —"Euridice" and "Montebello."

Second Division, under command of Rear-Admiral C. Gualterio—
- First-class battle-ship —"Andrea Doria."
- First-class armoured cruiser—"Marco Polo" (temporarily flying flag of Rear-Admiral second-in-command).
- Second-class cruisers —"Etna," "Stromboli," "Liguria," and "Urania."
- Torpedo-cruisers —"Caprera" and "Partenope."
- Depôt-ship —"Trinacria."

Torpedo-boat Division—
"Nibbio," "Avoltoio," "Aquila," "Sparviero," "Falco," and Nos. 147, 64, 153, and 90.

The Reserve Squadron, under the command of Vice-Admiral C. Morin, has also been constituted as follows:—

First Division—
- First-class battle-ships—"Lepanto" (flag-ship of Vice-Admiral Commanding), "Ruggiero di Lauria," and "Duilio."
- Second-class cruiser —"Lombardia."

Second Division, under command of Rear-Admiral G. B. Mirabello—
- First-class battle-ships—"Italia" (flag-ship of Rear-Admiral second-in-command), and "Morosini."
- Second-class cruiser —"Calabria"
- Torpedo-cruiser —"Calatafimi."
- Torpedo-boats —116, 112.

The Red Sea Squadron is constituted as follows:—
- Second-class cruiser —"Elba."
- First-class gun-boats —"Volturno," "Governolo," "Provana," and "Veniero."
- Screw-corvette —"Volta."
- Despatch-vessel —"Staffetta."

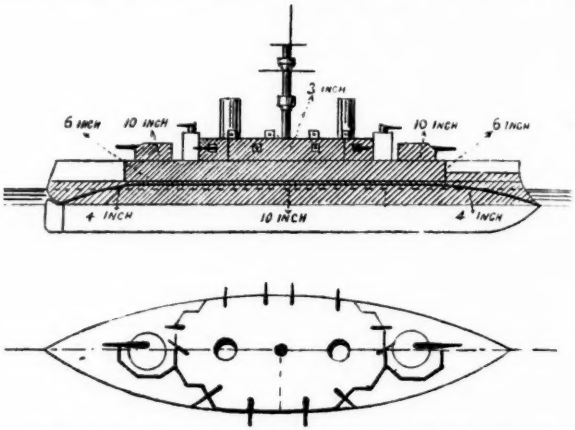
On South-East Coast of America.
- Second-class cruisers —"Umbria" and "Dogali."

At Constantinople.
- Despatch-vessels —"Archimede" and "Galileo."

The Minister of Marine has decided that all naval ports which are the seat of a commandant of local defence shall have a permanent "Défense-Personnel" forming an autonomous detachment depending directly on the department. These ports are eight in number, in which the effectives will be kept at the following strength in time of peace:—Spezia, 57 officers and 928 men; Maddalena, 30 officers and 803 men; Tarento, 15 officers and 269 men; Venice, 15 officers and 190 men; Genoa, 1 officer and 21 men; Messina, 5 officers and 52 men; Gaëta, 6 officers and 72 men; Ancona, 1 officer and 14 men. In war-time the strength will be raised to:—Spezia, 57 officers and 1,589 men; Maddalena, 70 officers and 1,105 men; Tarento, 34 officers and 496 men; Venice, 30 officers and 557 men; Genoa, 5 officers and 58 men; Messina, 16 officers and 72 men; Gaëta, 12 officers and 131 men; Ancona, 2 officers and 19 men.

The new first-class battle-ship "Ammiraglio di Saint-Bon" was launched at Venice on the 29th April. Her design and armament were settled as far back as 1890 by the Superior Council of the Navy, but various causes, chiefly the lack

of funds, have retarded her construction, as also that of her sister-ship the "Emanuele Filiberto," which is building at the dockyard at Castellamare. Her principal dimensions are as follows:—Length, 344 feet 6 inches; beam, 68 feet 6 inches; maximum draught, 24 feet 9 inches on a displacement of 9,800 tons. The engines are to develop 9,000-I.H.P., under natural draught giving a speed of 16 knots, and 13,500-I.H.P., under forced draught, giving a speed of 18 knots; the normal coal stowage will be 1,000 tons, without counting the liquid fuel to be carried in the double bottom. Unlike the earlier types of first-class battle-ships in the Italian Navy, the "Saint-Bon" has a complete water-line belt of 10-inch steel amidships tapering to 4 inches at the bow and stern. Amidships is a central



Profile and deck plans of the "Ammiraglio di Saint-Bon."

redoubt rising from the belt, and extending about two-thirds the length of the ship protected by 6-inch armour, at each end of which rise the barbettes, which are protected by 10-inch plating; above the redoubt is a central battery protected by 3-inch armour, and there is an armour deck tapering from 3 to 1·5 inches. The armour plating is all manufactured at the Terni Works, the test-plates having given most satisfactory results. The armament consists of four 10-inch guns, mounted two in each barbette and protected by steel hoods; eight 6-inch Q.F. guns, mounted in the central battery, two of which can fire right-ahead and two right-astern; eight 4·7-inch guns, mounted on the superstructure; six 57-millimetre Q.F. guns and twenty machine guns, with five submerged torpedo-tubes, one of which is in the stem. The guns are all manufactured at the Armstrong Works at Pozzuoli, and the engines at the Ansaldo Works.—*Gazzetta Ufficiale* and *Revue de Cercle Militaire.*

The "Stromboli," a photograph of which forms the frontispiece this month, is a second-class cruiser of 3,600 tons, with engines developing 7,700-I.H.P., giving the ship a speed of 17 knots. She is 282 feet 2 inches long, with a beam of 42 feet 7 inches, and was launched in 1886 at Venice. Her armament consists of two 9·8-inch (Armstrong) guns, one forward and one aft, mounted in barbettes protected by 5-inch armour; six 5·9-inch Q.F. guns, and fourteen 3 and 1-pounder Q.F. guns, with six torpedo-tubes. She has a crew of 315 men, and her normal coal supply is 630 tons.

SPAIN.—The new first-class armoured cruiser "Christobal Colon," which has been constructed at the Ansaldo Yard at Genoa, and was purchased last year by

the Government, successfully completed on the 10th, 13th, 28th, and 30th April her steam trials. The dimensions of the ship are as follows:—Length, 328 feet; beam, 59 feet; maximum draught, 24 feet, with a displacement of 7,000 tons. The ship is twin-screwed, and the engines develop 14,000-I.H.P., giving a speed of 19·5 knots. The boilers are water-tube on the Niclausse system; there are 24 of them, coupled in pairs under the same reservoir, which allows of much simplification in the tubing and arrangement of the cocks and valves; the 24 boilers are divided into groups of six, in four separate stokeholds. The normal coal supply is 600 tons, but on an emergency 1,200 tons can be stowed. Protection is afforded by a 6-inch armour-belt all round the water-line, made of nickel steel—forged at the Terni Works; above its belt is an armoured battery, which extends for some two-thirds the length of the ship, also protected by 6-inch nickel-steel armour; the roof of the battery is 2 inches thick, and the guns are isolated by means of 2-inch armoured bulkheads; the two-hooded barbettes for the heavy guns, one forward and one aft, are protected by 5-inch nickel-steel armour, their lower edges resting on the armoured roof of the central battery; a turtle-backed armoured deck 1·5 inches thick runs the whole length of the ship. The armament consists of two 9·8-inch guns, one in each barbette; ten 6-inch Q.F. guns in the central battery, two firing right-ahead and two right-astern; six 4·7-inch Q.F. guns on the superstructure, protected by steel shields, two firing right-ahead, and two right-astern, with twenty 3 and 1-pounder Q.F. guns distributed in the tops and other positions, and five torpedo-tubes for the Schwarzkoff torpedo. The following programme of trials was carried out under agreement between the Government and the contractors:—First, each set of 12 boilers to develop 4,000-I.H.P. during a six hours' trial; secondly, a four hours' full-power run, the engines to develop 15,000-I.H.P.; thirdly, a full-speed natural-draught trial to test coal consumption. The trials of each group of 12 boilers took place on the 10th and 13th April, 4,760-I.H.P. being developed, the engines making 75 revolutions, and the speed being 15·2 knots; during the four hours' full-speed trial the necessary H.P. was developed, the mean speed being 19 35 knots, which was slightly under the contract; in the final trial on the 30th April, under natural draught, a mean speed of 19·6 knots was maintained, the consumption being 800 grammes per H.P., and the power developed 135-H.P. for each square metre of grate surface. The "Pedro Aragon," a sister-ship to the "Christobal Colon," is also being built by the Ansaldo firm for the Government, and is to be ready in fifteen months.

A large floating dock is being constructed in Olongapo harbour in the Philippines; it will be 450 feet long, 115 feet beam, have a depth of 37 feet, and be able to accommodate ships of 12,000 tons.

The first-class armoured cruiser "Cardinal Jiménez de Cisneros," which was launched at Ferrol on the 19th March, is the fifth vessel of this class to take the water; the others being the "Infanta Maria Theresa" launched in 1890, the "Almirante Oquendo" and the "Viscaya" launched in 1891, the "Princesa de Asturias" launched in 1896; while the sixth, the "Cataluna," is still on the stocks at Carthagena. They are almost identical in dimensions, having a displacement of 7,000 tons, but the three older ships are only 340 feet long as against 347 feet 10 inches of the three latest, while the engines of the first-named only develops 13,000-I.H.P., as against 15,000 of the latter; the speed of all, however, is 20 knots, each one of the class already constructed having maintained that rate on her trial trip. There is a 12-inch armoured water-line belt, tapering to 4 inches at the extremities, a 2-inch armoured deck; while the two barbettes, one forward and one aft, are protected by 10·5 inch armour. The armament consists of two 11-inch guns, one in each barbette, ten 5·5-inch guns, all from the Hontoria Factory, and 16 small Q.F. guns, two machine guns, and 8 torpedo-discharges. The third-class cruiser

"Marques de la Victoria,' which was launched from the Vily Works at La Grana on the 4th February, is a small vessel of 830 tons, 235 feet long, and with a beam of 26 feet 2 inches. The engines, which are to develop 4,600-I.H.P., are being manufactured at the "La Maquinista Terrestra y Maritima" Works, Barcelona, and are to give a speed of 19·5 knots; while at 10 knots speed she will have a radius of action of 2,500 knots. The armament will consist of two 4·7-inch Hontoria Q.F. guns, four 6-pounder Nordenfeldts, two machine guns, and four torpedo-tubes.

The torpedo-boat destroyer "Destructor," of 386 tons displacement, 3,780-I.H.P., and 22 knots speed, has arrived at Clydebank, where she will be fitted with new water-tube boilers of the Normand type by Messrs. Thompson.

—*Mittheilungen aus dem Gebiete des Seewesens* and *Le Yacht.*

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS DURING MAY, 1897.

Lieut.-General H. S. Jones, C.B., R.M., to be General; Major-General S. J. Graham, C.B., R.M., to be Lieut.-General; Colonels W. Byam, C.B., h.p., and G. H. T. Colwell, C.B., R.M., to be Major-Generals; General Sir Archibald Alison, Bart., G.C.B., from the Essex Regiment, to be Colonel of the Seaforth Highlanders; Major-General and Hon. Lieut.-General Hon. J. J. Bourke to be Colonel of the Essex Regiment.

HOME.—Much regret has been experienced by all who have been associated with the late secretary of the Royal United Service Institution, Captain Boughey Burgess, at his death, which occurred suddenly on the 18th May at 4, Clifton Terrace, Southsea. Captain Burgess entered the Hon. East India Company's service on 15th March, 1842, as ensign in the Bombay Army, and was appointed to the 20th Bombay Native Infantry on 30th May following. On 21st January, 1845, he was attached to the Public Works Survey, at Ahmednuggur, where he remained for some time. On 21st January, 1846, he was promoted to lieutenant in the 20th Bombay N.I., and retired from the Service with the brevet rank of captain on 3rd November, 1854. On the death of Mr. Tonna, secretary of the Royal United Service Institution, in April, 1857, Captain Burgess was in the following month appointed his successor, and for thirty-six years carried out loyally and conscientiously the duties of his office. Captain Burgess, during his long connection with the Institution, witnessed the introduction of many changes and improvements; and he lived to see its removal to new premises and its entrance on a career of increased utility. The JOURNAL, which is now the most important portion of the work carried on by the Institution, was for many years edited with great care and ability by Captain Burgess; and when the time arrived for his retirement, in 1893, he was unanimously voted a pension for life by the Council, a resolution which was heartily acquiesced in by the members at the Annual Meeting. Captain Burgess' long and faithful services to the Institution were fully appreciated by the members and the Council, and it is with great regret that his decease is announced in this JOURNAL.

It was recently notified by telegram that the Cape Colonists contemplated raising the military forces of the Colony to 11,500 men, and in some quarters it was represented that this decision was connected with the Transvaal trouble. In point of fact, this resolution is the direct outcome of the recommendations of the committee which was appointed by the Cape Parliament last year to consider the whole question of Cape defence. The existing military forces of the Colony consist

of 6,075 men of all ranks, most of which were originally raised to protect the Colony from native attacks. As the Colony may be called upon to defend itself from foreign invasion from the sea, and also on the frontier, and as there is undoubtedly an increase in the probability and magnitude of native warfare, owing to the recent annexations of Pondoland and Bechuanaland, the Commissioners are of opinion that the existing forces of the Colony are neither sufficient in numbers, organisation, equipment, nor training, and that it is imperative in the interests of the country that a force meeting all these requirements should at once be established.

Including the Cape Mounted Riflemen, the active defensive force of the Colony should, they say, consist of about 11,500 men, of which about 2,000 would be in the regimental reserve, so equipped and organised as to be able to take field with necessary promptitude. This force should be semi-permanent, and partially paid.

With reference to the defences of Port Elizabeth and East London, "we have (says the Commissioners) been supplied with copies of the confidential correspondence between Imperial and Colonial Governments, including recent reports made on the subject by the naval commander-in-chief and the general officer commanding the troops in South Africa, and without entering into technical details we are of opinion that the commercial interests of these ports demand the provision of such defences as will suffice to ensure their safety from possible attack by hostile cruisers. Your Commissioners, while visiting the Eastern Province, took the opportunity of inspecting the coal mines of the Molteno and Stormberg district, and were much impressed with the possible source of supply these mines might in the future afford. In the event of the temporary loss of the coaling stations in the Peninsula, or the capture of vessels conveying coals for Her Majesty's ships on the South African station, East London would be the nearest port at which a large supply of coals could most speedily be obtained by rail from the collieries of the Eastern Province. It seems, therefore, to your Commissioners to be worthy of consideration whether, to a certain degree, the principle at present existing between the Imperial and Colonial Governments as to sharing the expenses in connection with the defences of Cape Town should not be extended to East London. As regards other minor ports and harbours on the seaboard of the Colony, we are of opinion that they are not at present of sufficient commercial or strategical importance to warrant the heavy expenditure that would be entailed by their defence."

As regards the finance, the Commission reports :—"The annual defence vote amounted this year to no less a sum than £225,000. In return for this expenditure the defences of the Colony consist exclusively of 800 men of the Cape Mounted Riflemen, about 4,400 volunteers, and some 800 men of rifle clubs, in all about 6,000 men, who, with the exception of the Cape Mounted Riflemen, are badly trained and devoid of any organisation, whereas, under our proposed system, the Colony would be able to rely upon not only the services of some 800 (including the permanent artillery) of the Cape Mounted Riflemen, and, under the improved system of organisation and training, some 1,000 members of rifle clubs, but would have in addition an active defence force of 9,100 men in a high state of organisation and training for a total cost, in round numbers, of £306,000. In other words, by increasing the defence vote by one-third the Colony obtains nearly double the number of trained soldiers."

Active steps have already been taken in the formation of the Army Nursing Service Reserve, the regulations for which were issued with Army Orders of 1st March, 1897. It is unnecessary to dwell upon the importance of providing the Army with trained nurses, for the need of their services has been fully recognised ever since the memorable time when Miss Nightingale, during the Crimean war, demonstrated to the world what could be achieved in this direction. At the present moment the Army Nursing Service consists of about 80 members, of whom 60 are

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with the Army at home, and 20 in the colonies. It is quite clear, however, that this number is altogether insufficient to provide for the necessities of the Army should the emergency of a great war arise. No doubt at such a time many true and courageous women would come forward, but it would be in a high degree imprudent for the military authorities to depend upon an improvised service of that kind. Therefore, when Her Royal Highness the Princess Christian proposed to apply the principle of reserves to the case of nurses for the Army, she adopted a policy which must commend itself to the sound sense of all who have the interest of the Service at heart. Her Royal Highness first called the attention of the Secretary of State for War to the matter last year. According to the Army Order recently issued, the Nursing Service Reserve will, in time of peace, be entirely under the control of a committee presided over by Her Royal Highness, and consisting of three lay members and three members connected with the War Office; in time of war the whole control of the nurses would be placed in the hands of the War Department. It is contemplated that the reserve shall consist of 100 or more nursing-sisters who shall have had at least three years' preliminary training in a civil general hospital, and every candidate will be required to produce evidence to show that she is in every way a desirable person to enter a service composed of ladies. Although so short a time in operation, the movement has already achieved a large measure of success. Twenty-two ladies who were already on the list of eligible candidates kept by the Director-General of the Army Medical Department have been admitted to the Nursing Reserve, and in addition to these, out of the very large number of candidates who have come forward, 43 more have been found to be fully qualified. Thus, out of the 100 members contemplated in the regulations, 65 have been duly enrolled.

The Military Pageant at the Royal Military Tournament, representing four epochs in the history of the British Army—Blenheim 1704, Waterloo 1815, Inkerman 1854, and Tel-el-Kebir 1882—contained much to interest military men in the matter of dress and equipment. It was no mere theatrical show, but a strict military parade. Every non-commissioned officer, private, trumpeter, or drummer, who appeared on the scene actually belonged to the regiments which they represented. The greatest care was taken to secure accuracy in regard to the uniform and other details, although funds would not admit of the special badges of the respective regiments being introduced. The very best authorities were consulted, including the tapestries at Blenheim, the contemporary prints in the British Museum, and the most accurate regimental and other histories. The drill and manual was also carefully attended to, and in the Blenheim period this was particularly interesting. Sergeants carried their pikes, at a sort of short trail, in the right hand, while the left rested on the hip. When saluting on the march, the pike was transferred to the left shoulder, with the spear-head foremost, and the cocked hat was gracefully removed with the right hand. The men carried the musket generally at what would now be called the "slope," only the hand, knuckles uppermost, grasped the stock about 4 inches from the heel of the butt, instead of under it. At the halt all ranks stood with the feet apart, a position which has more than once been advocated by Army medical officers of the present day as the most reasonable and natural. Cavalry and infantry generally, in Marlborough's time, wore the cocked hat like that still worn by the Chelsea pensioners, long loose coats, knee-breeches, high boots for the cavalry, and for the infantry white linen gaiters coming above the knee. The coat was red, with long frock and tails. There was no stock, and the low collar allowed absolute freedom to the neck and throat, which was adorned with a white neck-cloth, as the wrists were with frills. The hair was worn long, except by Grenadiers. Of the three cavalry regiments represented in the Blenheim portion of the Pageant, the King's Dragoon Guards, then the Queen's Regiment of Horse, were accurately depicted in cuirasses. This regiment, on its return home from Ghent, in 1714, returned into store the "armour" which it had

worn in Flanders. The uniform worn by the Scots Greys in the Pageant goes a long way towards settling a much-disputed point—as to when the regiment first wore the Grenadiers' cap. Grose, in his military antiquities, repeats a tradition that the Greys and the 5th Royal Irish Dragoons obtained the distinction of the Grenadiers' cap at Ramilies. In a volume of plates of Army uniforms, dated 1742, the Greys alone are shown wearing the Grenadiers' cap, and there is no evidence whatever of the 5th Dragoons ever having worn it. The Greys, in all probability, wore the Grenadiers' cap from the date of their formation in 1678, the year when Grenadiers were first introduced in the English Army. In the tapestries at Blenheim and in certain contemporary points in the British Museum a British cavalry regiment is shown wearing Grenadier caps, and as there were no Horse Grenadier Guards present in the battle, it may certainly be assumed that the Greys is the regiment depicted. The Waterloo, Inkerman, and Tel-el-Kebir periods were equally accurately represented, and those in search of a serviceable and presentable uniform for the British soldier might, by devoting some attention to the Pageant, have acquired some useful hints as to what to avoid.

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1. The annual rifle competition for the following prizes, challenge cups, etc., given by the National Rifle Association, will take place at Bisley in July, 1897. The conditions laid down on the forms of entry, which will be forwarded from the office of the association to the officers commanding corps, are to be strictly observed:—

"The Royal Cambridge Challenge Shield."
"The United Service Challenge Cup."
"The Brinsmead Challenge Shield."
"The General Eyre Challenge Prize."
"The Evelyn Wood Prize."
"The Imperial Prize."

2. As a pull of less than 6 lbs. will disqualify a competitor, care must be taken that the locks of the arms are carefully tested before the competitors proceed to Bisley.

3. The travelling expenses of competitors for the "United Service Challenge Cup" (and for the "Royal Cambridge Challenge Shield" and "Imperial Prize" as provided for in paragraphs 4 (*c*) and 6 respectively) will be borne by the public; but, as regards the remaining competitions no charge on account of such expenses will be admissible against the public.

4. The annual cavalry rifle competition for the "Royal Cambridge Challenge Shield" will take place on the 24th July, and the competitors are to be selected on the conditions specified below in paragraphs (*a*) to (*f*).

(*a*) A section consisting of four men, mounted on *bonâ fide* troop horses, may be furnished by each regiment of household cavalry and cavalry of the line desirous of competing. One of each section will be of not lower rank than sergeant, but not more than two will be non-commissioned officers. Depôts of regiments serving abroad will be entitled to enter sections, provided the same horses are not used by more than one section.

(*b*) Commanding officers will transmit the forms ("Æ") properly filled up, to the Under Secretary of State, War Office, *in duplicate*, and so as to arrive *not later than 12 noon on Wednesday the 14th July*, after which date no application will be attended to.

(*c*) Sections sent by regiments quartered in England will be granted the customary marching allowances for the number of days usually taken in performing the journey from their respective stations to Bisley and back. There will be no objection to their being sent by rail, but any expense in excess of the cost had they marched, must be borne regimentally. Should any regiment in Scotland or Ireland desire to send a section to compete, the whole cost of the journey must be borne regimentally.

(*d*) Men are to be fully equipped in every respect in drill order, Lancers without lances.

(*e*) Tents for the men, and covered stabling (temporary) for the horses, will be provided in camp at Bisley for the sections sent to compete, and both men and horses will be rationed by the Army Service Corps during their stay.

(*f*) The commanding officer of the regiment furnishing the winning section will be held responsible for the safe custody of the shield and for its return to Messrs. Elkington, 22, Regent Street, London, by the 15th June, of the year following that in which it has been won. Should the regiment be ordered on service abroad, the trophy must be placed in the charge of the Commandant of the Cavalry Depôt, Canterbury, until required to be returned.

5. "The Imperial Prize" competition will take place on the 14th and 17th July.

6. Competitors for "The Imperial Prize" being warrant officers, non-commissioned officers and men, and stationed more than eighty miles by railway from Bisley, will be allowed travelling expenses for any distance in excess of eighty miles if the competitors are stationed in England, or for the sea passage if they are stationed in the Channel Islands. The number of competitors from the Channel Islands or from units in England more than eighty miles by rail from Bisley, will be limited to ten per unit of infantry, and, for other units, to one for every complete seventy men.

7. Forms of entry for all competitions, except "The Royal Cambridge Challenge Shield," will be sent direct to the Secretary of the National Rifle Association, 12, Pall Mall East, London, S.W.

AUSTRIA-HUNGARY.—The final examination for admission to the advanced artillery and engineer courses will take place in Vienna in the latter half of September. The competing officers are summoned in accordance with the results which they obtained in the previous examination. Of these, 38 belong to the Field Artillery, 16 to the Fortress Artillery, 33 to the Pioneer Troops, and 7 to the Railway and Telegraph Regiments, in all 94 officers. All of them are first lieutenants and lieutenants, except four who are captains, one of the Field Artillery, and 3 of the Pioneers. In addition, as extra-mural candidates for the advanced artillery course, 5 artillery officers have been called up, and 3 ordnance officials. The examinees in both courses will be examined during four days in higher mathematics, and four days in mechanics, two days being given to *vivâ voce* examination in each science, and two to written answers. Lastly, there will be a four days' examination in tactics.—*Militär-Wochenblatt.*

The telegraphic regimental patrol, consisting of 2 under-officers and 2 mounted men, which hitherto has not been formed until the moment of mobilisation, has now been permanently constituted. The under-officers are on the regimental staff, and the men on the strength of their squadrons. There are also on the staff 2 mounted hospital attendants, under-officers or corporals, for the purpose of assisting the doctors. The depôt cadre is increased by 2 lieutenants. The peace effective of the regiment is 45 officers, 1,043 men, and 973 horses. The "combatants" are reckoned as 915. The cadre of each squadron is increased by 4 corporals and 4 patrol-leaders, a new grade between corporal and private. The squadron pioneers have been increased by 3. The permanent cadre of the Transleithan Landwehr Cavalry has been increased by 10 cavalry-officers.—*Revue de Cavalerie.*

Cavalry manœuvres will be held for twenty-one days with the horses that are now in the hands of the civil population. This will take place between the middle of August and the end of September, and timely notice is to be given to all concerned, so that the horses may be produced punctually at their headquarters.

The men for train duties are drawn from the reserve, and the command of the train devolves on officers of the reserve called up for the purpose. When any cavalry regiment has not at least four such officers attached to it, the services of a reserve non-commissioned conductor can be obtained.—*Militär-Wochenblatt.*

FRANCE.—By a decree of the 19th April, the military hospitals in Algeria are abolished, military patients being received into the civil hospitals throughout the colony. If, however, there be no civil hospital in a garrison town the suppression of the military hospital is to be postponed for a year after the promulgation of this decree. The lands and buildings occupied by the military hospitals will either be taken over for the purposes of the colony, or ceded gratuitously to those municipalities that undertake the establishment of civil hospitals. The contents will be handed over against a payment to be arranged between the departments concerned.—*Revue du Cercle Militaire.*

The three military commands in the Regency of Tunis have been reduced to two, namely, Tunis and Gabès, Sfax being suppressed, and its territory joined to Gabès, which will be under a general of brigade, instead of a colonel as hitherto. The headquarters of the Tunisian Cavalry Brigade will be in Tunis instead of Sfax.—*Revue du Cercle Militaire.*

Under date 3rd May, 1897, the War Minister has decided to call out the officers and sub-officers of the reserve and territorial engineer staff, who were not called out last year. The period of instruction in the case of those detailed for mining operations will not exceed five days; for those sent to fortified places thirteen days; for those attached to departments five days. Such as are attached to the engineer staff of army corps will not be out for longer than one or two days, unless their corps be engaged in manœuvres, in which case they will not be dismissed till the end of the manœuvres. It has also been decided to call out 125 veterinary surgeons of the reserve, with a view to increased efficiency. They will be distributed throughout the various army corps, and be attached to the cavalry and artillery regiments of which they are in reserve. Military veterinary surgeons who have retired within the last five years are exempt—as also are instructors in the national veterinary schools.—*Revue du Cercle Militaire.*

The Duke d'Aumale, "a grand figure," just passed away, was the fourth son of King Louis Philippe, and was born in Paris on the 16th January, 1822. He was educated with his brothers at the Henri IV. College, became a sub-lieutenant in the infantry on 1st January, 1837, lieutenant 1st January, 1838, and captain, 4th Regiment Light Infantry, 1st January, 1839. In 1840, he commenced his Algerian career as aide-de-camp to his brother the Duke of Orleans, and greatly distinguished himself at Blidah and Médéah. He was mentioned in Army Orders for his conduct in that campaign. As a lieut.-colonel he then directed the Chasseurs' School of Musketry for a few months, but was again in Algeria with the expedition to Médéah and Milianah, for which he was again mentioned in Army Orders. In 1841, he was colonel of the 17th Light Infantry in France, and in the following year left again for Africa where he once more gave evidence of the highest qualities. On the 3rd July, 1843, the Duke d'Aumale was placed, with the rank of lieut.-general, at the head of the Constantine Division, which in 1844 was employed against Biskra. In 1847, he succeeded Marshal Bugeaud as Governor of Algeria, and received the submission of Abd-el-Kader. The revolution of 1848 sent him into exile, but in 1872, he was reinstated in the French Army as a general of division. After presiding at the Bazaine trial, he commanded the 7th Army Corps till 1879, and was Inspector-General of the Army till 1883, when he retired from active service.—*Revue du Cercle Militaire.*

GERMANY.—The re-organisation of the German infantry is an accomplished fact. On the 1st April the number of regiments rose from 173 to 215. These 42 new regiments have been formed from the late 4th half-battalions which, with one exception, are now combined by two and two so as to constitute complete battalions of about 500 men. Of the 42 new regiments, 33 are Prussian, 2 Würtemberger, 3 Saxon, and 2 Bavarian. Forty are two-battalion regiments, the remaining two (Bavarian) having 3 three-battalions. The half-battalion not absorbed in the new formations has been suppressed. It was that of the 1st Regiment of Foot Guards. There being 9 regiments of Guards, the two new regiments required could be formed out of their 4th half-battalions without using the half-battalion above mentioned. This change of disposition does not, however, augment the number of battalions of the active army on mobilisation, for with the late arrangement there were 173 regiments of 4 battalions—in other words, 692 battalions. At present, if new units be not formed on mobilisation, there will be only 605 battalions, besides 19 of chasseurs, as the regiments now have only two or three battalions each. There will be no actual increase until 3rd battalions are given to the new regiments. It is, therefore, solely with the object of strengthening the first line and improving its instruction that the Germans have abolished the 4th half-battalions which were brought into existence four years ago. This policy is, as expressed by General Bronsart von Schellendorff:—"To increase the efficiency of the active army which is called upon to strike the first blows, and to admit no elements that are not thoroughly instructed." The troops retain their connection with their former garrisons, and there is no increase to any of the army corps.—*Revue Militaire de l'Étranger.*

It may be remarked that the German policy of perfecting the first line is shown not only in the infantry changes, but in the treatment of the mounted chasseurs, late *Meldereiter*, and the horses for heavy draught. When Germany has completed the organisation of the mounted chasseurs she will be possessed of twenty squadrons more, charged with duties for which they have been carefully prepared in time of peace. They will also obviate the weakening of cavalry regiments by having to detach men for carrying reports, etc. The increase of draught horses is another proof that Germany intends to strengthen her first line. She is preparing to give it the powerful help of the foot artillery.—*Revue Militaire de l'Étranger.*

RUSSIA.—The position of the Cossacks of the Don forms a pressing military question. A Russian author says that each Cossack costs his family 180 roubles for equipment, and in war the sacrifices made by them are altogether out of proportion to those of the population in general. For example, in the war of 1877-78, 40,000 Cossacks marched against the Turks. If 200 roubles be taken as the value of their military belongings, and 100 as that of the labour lost to their land, a total of 14,000,000 is obtained. There seems to be a general desire in Russia to see the Don Cossacks treated on the same terms as other soldiers.—*Revue du Cercle Militaire.*

The formation of the frontier guards into a military corps has now been completed. The new organisation has taken over the police, political, and revenue duties of the frontier. It consists of 15 generals, 152 staff officers, 805 officers, 81 surgeons and assistant-surgeons, 287 hospital attendants, 31,425 men, 472 volunteer riders, and 11,000 horses. This force is divided into brigades; for instance, the Baltic brigades are 4, namely, those of St. Petersburg, Riga, Reval, and Orenburg. The brigades on the German frontier are at Gorjdi, Tauroggen, Wirballen, Grajewo, Lomtscha, Rypin, Alexandrowo, Kalisch, Wilna, and Czenstochau, in all, ten brigades. The Black Sea is watched by the Odessa and Crimean brigades. Each brigade is divided into 2 or 3 lieutenant-colonel's-

commands, and each of the latter into 4 or 5 detachments commanded by captains, these again being composed of from 3 to 5 cordons of from 15 to 50 men. The immediate watch of the frontier is carried out by means of sentries, patrols, and posts. Each sentry has from 200 to 2,600 metres to look after. The posts are placed in one or two lines; if in two, the first stands on the frontier, and the second 5 kilometres in rear of it. The first line is composed of cavalry and infantry, the second of cavalry alone. The mounted men are armed and equipped as dragoons. There are also vessels manned by 92 men, commanded by naval officers, to carry out the duties afloat, and to assist the corps in the suppression of smuggling.—*Deutsche Heeres-Zeitung.*

The general staff of the Russian Army is exclusively drawn from the officers who have been successful at the Nicolas Academy. This institution is not so much a general staff school as a high school for military studies. It was reorganised in 1893, and embraces two general courses and one special course, the last being undergone by a select number of those officers who have passed the former. The special course lasts for a year, and is intended to prepare for service on the general staff. Officers of all arms are admitted up to the rank of army captain of the second class, or its equivalent, lieutenant in the Guards, if of not less than three years' service. After two years' residence all officers are examined and divided, according to their marks, into two categories. Officers in the first category receive a year's pay, and are eligible for the second course. Those who, after two years' successful study, are sent back to their corps have several advantages in the way of promotion, exchange, and decoration. This academy insures the efficiency of the general staff, and forms an excellent nursery for troop-leaders and generals.—*Deutsche Heeres-Zeitung.*

NAVAL AND MILITARY CALENDAR.

MAY, 1897.

1st (Sat). Greek forces in Epirus retreated.

2nd (S). Insurgent leaders in Crete declared in favour of annexation to Greece.

3rd (M). Proclamation by the Queen of neutrality of British subjects in Turco-Greek war.

5th (W). Turks attacked Velestino.

,, ,, H.M.S. "Spartan," from China station, paid off at Devonport.

6th (Th). Greek Army at Pharsala driven back to Domoko. Velestino captured by the Turks.

7th (F). Despatches of Rear-Admiral Rawson, C.B., in connection with operations against the King of Benin and capture of the city, published in the *London Gazette*.

,, ,, Home District Rifle Meeting, Bisley.

8th (Sat). Greek forces recalled from Crete.

,, ,, Fighting in Candia between insurgents and Turks.

,, ,, Home District Rifle Meeting, Bisley, second day.

9th (S). Turks advance on Domoko.

12th (W). Italian Chamber approved proposed re-organisation of the Italian Army.

14th (F). Embarkation of Greek troops in Crete commenced.

,, ,, H.M.S. "Porpoise," from China station, paid off at Portsmouth.

15th (Sat). 13th and 67th Field Batteries R.A. left England for South Africa in the "Jelunga" and "Dilwara."

16th (S). Porte issued its terms of Peace with Greece.

17th (M). Capture of Domoko by the Turks.

,, ,, Launch of first-class armoured cruiser "O'Higgins" from Elswick Yard, Newcastle-on-Tyne, for Chilian Government.

18th (T). Sultan of Turkey issued orders for suspension of hostilities with Greece.

,, ,, Launch of second-class cruiser "Takasago" from Elswick Yard, Newcastle-on-Tyne, for Japanese Government.

,, ,, H.M.S. "Flora" arrived at Portsmouth with relieved crews of "Tauranga" and "Karakatta."

19th (W). Greek Army fell back to the Pass of Thermopylæ.

20th (Th). Armistice for seventeen days announced between Turkey and Greece.

,, ,, 69th Field Battery R.A. left England in "Tintagel Castle" for South Africa.

21st (F). H.M.S. "Marathon" arrived at Portsmouth from East Indies.

,, ,, H.M.S. "Endymion" and "Minerva" arrived at Portsmouth from Hong-Kong, with relieved crews of H.M.S. "Centurion."

23rd (S). Completion of evacuation of Crete by the Greek troops.

26th (W). H.M.S. "Bonaventure" arrived at Portsmouth from East Indies.

27th (Th). Royal Military Tournament, Agricultural Hall, Islington, opened by H.R.H. the Prince of Wales.

FOREIGN PERIODICALS.

NAVAL.

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on the *Inscription Maritime.*" "The Growth of Foreign Words in German Naval Phraseology." "The New Mail-Steamer 'Kaiser Wilhelm der Grosse.'"

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1796-97 in Italy" (*concluded*). "Company Cyclists." "The Marching of Infantry." "Land, Men, and Arms, in War."

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Revue du Genie Militaire. Paris: May, 1897.—"Engineering Operations during the Madagascar Campaign" (*continued*). "Correspondence of Vauban —Analysis and Extracts."

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NOTICES OF BOOKS.

Life of Vice-Admiral Sir George Tryon, K.C.B. By Rear-Admiral C. C. PENROSE FITZGERALD. Edinburgh and London: William Blackwood and Sons, 1897.

The announcement last year that a life of the late Sir George Tryon was in preparation gave rise to many doubts concerning the wisdom of such a step, in view of the circumstances attending the close of that life, valuable as it had been in other respects both to the country and to the Navy. These doubts have probably been dispelled on perusing the excellent biography Admiral FitzGerald has compiled of one, who, though he never led a fleet against an enemy, yet, like the late Sir Geoffrey Hornby, found during a time of peace opportunities of adding lustre to a Service which has produced such a long list of distinguished men.

Sir George Tryon first went to sea in 1848, a time when the Navy was suffering from those years of retrenchment in all public expenditure which followed the passing of the Reform Bill in 1832. It was a period of stagnation as regards our fleet, and all that remained of what that Service had been twenty years previously was an enormous list of officers, giving little hope of rapid advancement except to a favoured few.

The Russian war came in 1854 as an opportunity for officers with energy and ability to emerge from the ruck, and George Tryon had already shown he possessed both qualities. He was then an acting sub-lieutenant in the Mediterranean on board the "Vengeance," a sailing two-decker commanded by Lord Edward Russell, and when the sinking of a considerable portion of the Russian fleet in Sebastopol Harbour showed the enemy did not intend to meet us at sea, the object of a young officer's ambition was to join the Naval Brigade for service on shore. Young Tryon succeeded in getting attached to this force, and obtained his promotion to lieutenant by a death vacancy. On his return home in 1858 he was appointed to the Royal yacht, and, when promoted to commander in 1860, her captain, the Hon. T. Denman, reported of him: "As an officer of great zeal and promise. His ready resource and intelligence, sound judgment and good temper, especially qualify him for success in his profession; and I consider it my luty to recommend him strongly to their Lordships as an officer likely to perform any service required of him with ability."

With such testimony Commander Tryon was not likely to be long unemployed, and the next year he was appointed to the "Warrior," our first sea-going iron-clad. She was considered a wonder in those days, and to be her commander indicated merit of no ordinary kind in the officer selected for this important office.

After an interesting three years in this ship, Tryon got an independent command in the Mediterranean, the "Surprise," a gun-boat of 700 tons, from which he was posted on April 11th, 1866, at what would now be considered the early age of thirty-four. During his two years' command he had added to his reputation as a smart officer, and was now considered one of the rising men of the Service. This, no doubt, led to Captain Tryon being appointed additional to the "Octavia" for transport service with the Abyssinian Expedition in 1867, work requiring not only ability, but great tact in dealing with hired vessels commanded by men not accustomed to naval methods. Testimony to his success is given in these memoirs by the commander of the "Octavia," the present Admiral Maxwell, who says, "What most impressed me about Tryon was his great talent for organisation, his capacity for work, his foresight, and his clearheadedness. The numerous merchant captains over whom he ruled had a great awe of him, but at the same time a great admiration and respect. A word from him was enough at any time to bring a refractory subject into line, and to disentangle any of the threads that had got mixed. To him it is due that all worked so well, to his tact and judgment that all went so smoothly." Lord Roberts, who was present, says, "Tryon's powers of organisation were quite unusual, and I was much struck by

the masterly manner in which he had grasped the situation." Perhaps the strongest testimony of all is the fact that the captains of 291 transports presented him with an address, testifying to his general kindness to them, and wishing him every prosperity. In 1871 Captain Tryon became private secretary to Mr. Goschen, who had great confidence in his judgment and shrewdness in all matters. The acquaintance thus begun ripened into intimacy, which was kept up through subsequent years. In 1874 he commissioned the "Raleigh," one of our early iron-built wood-sheathed steam cruisers, and joined the Flying Squadron. It was a trying service and performed under conditions with which many young officers were unacquainted. Perhaps Captain Tryon, so able himself, did not make sufficient allowance for this, and thus his manner by many was considered overbearing, though in reality it arose from desire to see all work well done. Indifferent service was always received by him with impatience. But of his real kindness of heart there are ample proofs. I have heard of numberless instances, though they are not generally known on account of the unostentatious manner in which they were performed. From the "Raleigh" Captain Tryon went to the "Monarch," and then became Secretary to the Admiralty, a post now held by a civilian, but the duties of which are more appropriate to a naval officer. How well he filled this post is in the memory of all and well described by Admiral FitzGerald.

After attaining flag rank Rear-Admiral Tryon took command of the Australian station, and here he took a leading part in the arrangement by which an auxiliary squadron was to be maintained in Australian waters, most of the Colonies contributing towards the additional expense. The arrangement is not a perfect one, but the great object was to wean these communities from the desire of forming local navies wanting in cohesion and tied to their own localities. They now understand better that Colonial as a part of Imperial defence must be conducted on broader lines. On his return to England Admiral Tryon was made a K.C.B., having previously been given a C.B. for his Abyssinian services. After an unsuccessful attempt to get into Parliament, Sir George Tryon became Admiral-Superintendent of the Naval Reserves in April, 1888. This gave him an opportunity of exhibiting great strategical ability in the naval manœuvres of that and two following years. Though there must naturally be much that is unreal in such operations, they afford not only excellent training to all engaged, but give scope for original and effective treatment to those in command. It would be difficult to find flaws in the tactics employed and the arrangements made by Sir George Tryon on these occasions. His mind was nearly always at work upon organisation and the treatment of naval warfare. Should such have occurred in his lifetime he had thought out the measures to be adopted. Have many others done this? Hence all things pointed to him as the successor to Sir Anthony Hoskins when the Mediterranean Command became vacant in August, 1891, and Sir George Tryon went out in the "Nile" the following month. Little of incident occurred until January, 1892, when the "Victoria," the admiral's flag-ship, went ashore in Greek waters. Sir George was not on board at the time, but speedily appeared, and at once showed a thorough grasp of the situation. Whilst commending all that had been done towards getting her off, he added some valuable suggestions which aided materially in getting the ship off on the 4th of February.

The account of the terrible episode in which Sir George lost his life is judiciously treated by Admiral FitzGerald. To those who have not the Blue Book of the "Victoria" court-martial the narrative given here is full enough for all purposes. No further comment is necessary. Why Sir George Tryon attempted the fatal evolution is and must remain a mystery. It may have been due to a defect in his character that he would never admit himself to be wrong. An intolerance of mediocrity and that undoubted overbearing manner prevented any question of an order. All recognised a master-hand and gave implicit obedience. But when that is said, we may still lament the loss of that kind heart, the removal of one of the ablest naval commanders of modern times.